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LAKE CARRIERS' ASSOCIATION.

To consider and take action upon all general questions relating to the navigation and carrying business of the Great Lakes, maintain necessary shipping offices and in general to protect the common interests of Lake Carriers, and improve the character of the service rendered to the public.

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ATLANTIC LINERS.

The Vulcan Works, at Stettin, Germany, has orders for two steamships for the North German Lloyd S. S. Co. These boats are intended for the passenger service between Bremen and New York, and will probably cut down still lower the ocean records made this season by the Kaiser Wilhelm der Grosse and the Deutschland. They are to be called the Kaiser Wilhelm II and the Kron Prinz Wilhelm. Speed is being specially considered in the building of the Kron Prinz Wilhelm. It is understood that the Vulcan works have guaranteed that she will eclipse everything yet accomplished by the Kaiser Wilhelm der Grosse. It is probable that she will be able to sustain a speed of nearly twenty-four knots across the Atlantic, and that she will either establish new records or force the Deutschland or some other fast flyer to clip more hours from the fastest registered crossings.

Gustav. H. Schwab, manager of the North German Lloyd Steamship Co., in New York, says that the Kron Prinz Wilhelm, which is to be named in honor of the young heir to the throne of the Fatherland, will be ready in five or six months, but she will not make her maiden voyage until early next autumn. She will be of 15,000 tons burden and 33,coo horse-power. Mr. Schwab said: "The Vulcan company has always succeeded in getting out of its ships not only the speed it guarantees, but a little more. I expect, therefore, to see the Kron Prinz Wilhelm eclipse the feats accomplished by the Kaiser Wilhelm der Grosse. We are having another big ship built that will best the Kaiser Wilhelm der Grosse both in size and speed. This is to be called the Kaiser der Zweiter, or the Kaiser Wilhelm II, in honor of the present Emperor of Germany. The old vessel of that name is now running to Mediterranean ports and will have her name changed. The new Kaiser Wilhelm II will be the longest ship afloat. She will be about 706 feet long, or a little longer than the Oceanic, about 20 feet longer than the Deutschland and nearly 60 feet longer than the Kaiser Wilhelm der Grosse. She will be 70 feet beam."

INSPECTION OF VESSELS.

The annual report of James A. Dumont, the supervising inspector-general of the steamboat inspection service, shows that during the year ending June 30, 1900, the total number of vessels inspected and certified was 9,253, with a total tonnage of 4,507,648, as against 8,707 vessels in 1899 with a total tonnage of 3,968,371, showing an increase in tonnage of 802,041 tons.

The number of certificates issued to foreign passenger steamers included in the above was 345, with a gross tonnage of 1,233,846. Motor vessels inspected, 80; gross tonnage, 4,516. Sail vessels inspected, 520; tonnage, 534,761. Domestic steam vessels inspected, 8,308, with a total tonnage of 2,734,525. The total number of officers in the service holding five-year licenses is estimated to be about 43,-000, of which number 6,445 received their licenses during the present fiscal year.

The total number of applicants for masters', mates' and pilots' licenses was 2,886, of which number 69 were rejected for color blindness. The total number of boiler plates examined by assistant inspectors at the mills under the act of Congress approved January 22, 1894, was 5,424, of which number 483 were rejected for various defects.

The total number of accidents during the fiscal year was 33, being 15 less than in the previous fiscal year. The total number of lives lost was 206, being 198 less than in the previous fiscal year.

SUEZ CANAL TRAFFIC.

Tables of the shipping which passed through the Suez canal last year, published in the report of Mr. Consul Cameron, give some idea of the magnitude of commercial interests in the far east. Out of 9,895,630 net tons of shipping that used the canal, no less than 6,586,300 were under the British flag, the increase over 1898 being 288,000. Germany comes next, with 1,070,800 tons, an increase of 101,000. The percentage of British vessels in 1899 was 64, as against 65 in 1898, and that of their tonnage, 66.6 as against 68.2 in 1898. These figures are, however, somewhat deceptive, because it is important to distinguish between merchant vessels on the one hand, and men-of-war, transports, and even subsidized mail steamers on the other. For example, out of a total naval tonnage in the canal of 112,000 in 1898, Great Britain contributed 35,000 tons, while in 1899 she contributed only 23,000 tons out of 146,000. The difference is due to the Spanish-American war and to the movement of the Russian volunteer fleet. But if we count only merchant vessels, with cargo or in ballast, our percentage of trade tonnage is 77.2 per cent. as against 79.4 per cent. in 1898. Compared with these German trade tonnage is only 9 3 per cent., as against 9.9 per cent. in 1898, while France, Holland, Austria, Norway and Denmark combined only add some 10 per cent. Thus it may be said that some 57 out of every 73 tons of merchant shipping using the canal are British.

CANADIAN TRADE.

According to the Bureau of Statistics, the Canadian preferential tariff in favor of the United Kingdom, has not had the expected effect of reducing the proportion which the United States supplies of manufactures imported into Canadian territory. The imports of dutiable articles into Canada from the United States in the fiscal year 1899 aggregated over $44,000,000, and from Great Britain less than $28,000,-000. A Canadian journal states that the United States is furnishing a much larger amount of manufactures of iron and steel to Canada than does the United Kingdom, that the preponderance of trade is overwhelmingly in favor of American manufactures, tariff preference in favor of British goods to the contrary notwithstanding, and that it seems that British manufacturers are entirely unable to compete with Americans in the Canadian market.

ADMIRAL CROWNINSHIELD, chief of the Bureau of Navigation, Navy Department, will recommend to Congress that the enlisted force of the navy be increased to 30,000 men and boys. This is an increase of 12,000.

NATIONAL BOARD OF STEAM NAVIGATION.

In his recent address at the 29th annual meeting of the National Board of Steam Navigation held at Pittsburg the presiding officer, M. E. Staples, of New York, stated as follows:

I would call especial attention to the work performed by this board. Summarized, it is as follows:

1884—Repeal of Marine Hospital tax. This alone effected a saving for the year 1883 of $438,028.68. 1884—Passage of the personal liability bill. It is not necessary to expatiate on the great benefit to steam vessel owners secured by this board, through the passage of this bill. 1885—Defeated bill introduced in the interest of patent right venders. 1886—Passage of bill abolishing fees for official services to American vessels, etc. By the passage of this bill steam vessel owners were relieved of an enormous expense. 1886—Passage of bill enabling owners of tow-boats to carry passengers. The passage of this bill enabled tow-boat owners to increase the earnings of their boats. 1886—Increasing the number of light-house districts. No comment is necessary to show the importance of this act. 1886—Defeat of bill designed to impair proper administration of the steam vessel inspection service. 1886—Defeat of bill requiring an unnecessary freeboard on loaded vessels. 1886—Defeat of bill requiring a newly patented signal light on ocean-going steamers. 1886—Defeat of bill requiring ocean-going and lake steamers to provide and carry jackets to cover holes in sides of such vessels when such holes were caused by collisions. 1886—Defeat of bill requiring use of patent steam gauge. 1887—Defeat of bill requiring all steam vessels and their tows to carry additional side lights. 1889—Passage of bill to establish a light-house on outer Diamond Shoal, Hatteras. 1892—Defeat of bill amending steamboat inspection laws. This act, had it become a law, would have caused the greatest injury to steam vessels owners. Its defeat was the result of hard and continuous efforts by members of this board. 1894—Defeat of bill requiring all steam vessels, even the smallest vessel, to have two engineers on duty at all hours. 1888—Passage of bill defining anchorage grounds in New York bay and harbor. No member of this board, except the New York members, can appreciate the importance of that act. Prior to its passage, life and property were unsafe during fogs and storms. 1889—Passage of bill amending the libel laws. The efforts made by this board in this matter are fully understood, and, I think, appreciated by every steam vessel owner. 1894—Defeat of rule of supervising inspectors regarding lights to be carried on tows. The importance of this action by your officers and committee cannot be overestimated. Vessel owners avoided a large expenditure and a danger to safe navigation was avoided.

In addition to the above specified cases, your legislative committee has appeared, from time to time, before the Board of Supervising Inspectors and secured adverse action on bad, and favorable action on good measures.

The members of the different legislative committees alone know the hard work done and the difficulties overcome.

SAILING VESSELS NOT LIABLE.

Assistant Secretary of the Treasury Spaulding has decided that sailing vessels are not liable for any penalty for transporting passengers from port to port in the United States other than allowed by the certificate of inspection. The case in which the decision was made was that of the bark Northern Light, which brought passengers from Nome, Alaska, to Seattle to the number of forty-eight in excess of the number allowed by the certificate. The Collector of Customs mulcted the owners with a fine of $2,400, and an appeal was taken to the Department. This fine was remitted.

AROUND THE LAKES

DULUTH—SUPERIOR.

Special Correspondence to The Marine Record.

Orders have been received to place all of the whaleback fleet that is lying here in winter quarters, and the work of stripping them will soon be completed.

The two steel tow-barges on the stocks at West Superior which will be launched about October 15, are to be named Liberty and Loyal. The corporation which will operate them is the International Navigation Co.

The wharf of Messner's sandstone quarry at Jacobsville, Portage Entry, tipped into water Saturday night owing to eight carloads of stone being piled on the outer edge. A young Finish laborer, who was piling stone, was carried down and killed.

It would seem that under any ordinary conditions all lumber in the vicinity of Duluth would go by water, but the railroads are eager for the business and they have made rates that are attractive especially when it is taken into consideration that the interior mills have shaded the Duluth market.

From a good many of the ports where lumber is piled it will be impossible to get the stuff down by the all-rail routes, hence what is left that the boats cannot carry must be left at the head of the lakes during the winter. This is rather embarrasing to the shippers, who have a splendid market in sight for an immense amount of lumber next spring.

It is reported here that the Carnegie Steel Co. will in a few days let contracts for the construction of two and probably three steel cargo boats of 8,000 tons, about 470 feet long, and costing $300,000 each. The steel will be furnished direct by the Carnegie Co. for these craft, which are the first contracted for since the company built its large fleet last winter. At this time I can't vouch for the accuracy of the foregoing statement although it seems well founded.

A number of men have been let out at the Missabe ore dock. The reason given is that the force all over the Missabe road is being decreased and that the ore dock was included with the rest. The fact is plain, however, that the demand for ore is not as great as it has been and that fewer boats are being loaded at the docks now than at any time this season. The new ore dock is nearly completed, but business conditions must determine whether it shall be operated this season.

This season is different to all others in lumber shipments. The railroads seem to have done about two-thirds of the carrying trade and vessels were consequently froze out. Shipments by rail were favored all through the season and is now more likely than ever to continue. It is estimated on a careful survey of the shipments already made and those to come, that 800,000,000 feet of timber will be carried to Chicago from the Duluth district by rail, while 200,000,000 will go by boat. Last year the trains had the 200,000,000 feet and the boats took 800,000,000 feet.

The resignation of G. W. Wallace, long mine superintendent for the Minnesota Iron Co., to accept the management of the Corrigan, McKinney & Co. mining interests has led to a number of changes in the Minnesota Iron Co.'s organization. Edwin Ball, manager of the Minnesota mines at Soudan, becomes general manager of the Fayal, Genoa and Auburn but will continue to reside at Tower and be manager at Soudan. G. C. Brown, manager of the Genoa, becomes assistant manager of the Fayal. A. H. Ahbe, of the Minnesota, becomes assistant manager; F. E. Keese, mining captain at Genoa, becomes assistant manager there.

Assistant United States Engineer John H. Darling started on an expedition this week, under orders from Maj. Clinton B. Sears, U. S. engineer officer in charge of the Lake Superior district, to perform a most important piece of work. He will be assisted by M. H. Lewis, in employ of the engineering department. Mr. Darling is called upon to locate a shoal that is a menace to the Lake Superior shipping. This shoal has never been charted and was discovered by a vessel captain, who when looking over the side, suddenly saw the shoal. The captain took hurried bearings and reported the matter to Maj. Sears, Corps of Engineers, U. S. A. Mr. Darling left on the steamer Carrington for Stannard's Rock light and from there will conduct a trigonometrical survey to locate the shoal in question, which will be charted in time for next season's work. This is the third or fourth time during the past few years that the U. S. engineer's office at Duluth has been called upon to locate shoals, and upon every occasion J. H. Darling has had charge of the work.

"Sensationally low rates will prevail in the Lake Superior iron ore trade next season," a prominent iron ore man is quoted in the Duluth Tribune. "The rate will not exceed 50 cents a ton from Duluth to Lake Erie, and I don't know what is going to become of the little boats of 2,000 tons or thereabouts. We thought the little fellows were done for two years ago during the period of low freights occasioned by the 400-footers, but they took a new lease of life in 1899 when all kinds of vessel property experienced a boom. Now it is possible to see their finish once more and this time to a certainty. By the time another boom in vessel property overtakes them the lakes will be covered with big tonnage and they will be in about the same class to the average lake boat as the little lumber hookers are now when compared to a 2,000-ton boat. There will be all kinds of boats for the lumber trade next season. There are eight or nine new boats to go into commission this year and nineteen are to be built between now and next season for the lake trade. The Rockefeller fleet of fifty-six boats now laid up with the exception of seven, and without seriously affecting the freight situation, and all of this new vessel tonnage in sight for the season of 1901. A prominent Cleveland man has figured out that there will be boats available for the ore trade next season capable of moving not less than 23,000,000 tons. This, after having made liberal allowance for increased movement of coal, flour, grain, lumber, etc. As this amount of ore will not be in demand for next year, and even if conditions warranted the demand, there is not furnace capacity to consume it, there is a plain case of excess vessel tonnage in sight for the ore business. I think the rate for transporting ore will not be above 50 cents next season. Recent contracts for transporting ore from the Mesaba range to Lake Erie by the Rockefeller interests signifies a 50-cent vessel rate. There will probably be the usual amount of pessimistic talk in vessel circles about business going to the dogs, but it is a noticable fact that the lake vesselmen, as a class, are prosperous, and do not wear imitation diamonds either."

PORT HURON.

Special Correspondence to The Marine Record.

No trace of the bodies of the Martin's crew has been found as yet.

Capt. James Reid, the well-known wrecker, who spen last winter here, will take up his residence in Port Huron and will station his tugs and wrecking outfits at this point.

Homer Rose, mate of the schooner John Martin who was drowned in the sinking of the vessel, did not live in Toledo, as stated in the several dispatches, but came from some small town in Canada. He was not married.

The steel steamer Yuma sunk the schooner John Martin in St. Clair river near this port on Friday night. Capt. James Lawless, mate William Ross, Mrs. Bacon and an unknown-named sailor were drowned in the casualty.

Under the provisions of the river and harbor act of March 3, 1899, the Secretary of War assumed control of the removal of the wrecked schooners Fontana and John Martin, at the head of St. Clair river, and the following directions must be strictly observed by all vessels approaching and passing the locality: Steamers with more than one schooner in tow will be required to take a tug to assist in passing the wrecks or break up. Boats will not be allowed to meet or pass each other within one-half mile of the wrecks, downbound boats having the right of way. Downbound boats will not be permitted to pass the wrecks at night. Boats arriving at the lightship after 5:30 o'clock, standard time, will come to anchor above the lightship, leaving a clear passage for upbound craft; and thereafter boats will arrange themselves in order of their arrival. A boat will not pass another at anchor below her. At daylight boats will pass down the river in order of their arrival at the anchorage ground, down boats having continuous right of way until the entire fleet has passed. The following sailing directions will apply to downbound craft. Keep to westward of Fort Gratiot range to pass clear of Fontana, and when abreast of her head on to the Bottsford elevator. In all cases upbound boats will check and wait below Fort Gratiot front range light for any downbound boats below the lightship to pass. Downbound boats, which are not allowed to pass at all during the night, will have the right of way in the morning until the fleet has passed down, and upbound boats must stay below Fort Gratiot front range light until notified that downbound fleet has passed, when they will proceed in order of their arrival. Sailing directions for upbound boats: Keep on Fort Gratiot range until abreast of the Martin, then starboard to pass clear of the Fontana and head on the lightship. The black buoy opposite the lighthouse marks the limit of the twenty-foot depth, and all vessels may safely lay a direct course from this buoy to the lightship. The upbound passage is passable to the east of the Fontana if boats keep well to the eastward, where deep water will be found close to the Canadian shore in the immediate vicinity of the wrecks. This course is necessary because of the strong current setting from the Canadian shore toward the Fontana. United States patrol tugs are stationed above and below, and such further instructions as may be communicated from them must be observed.

Capt. Robt. P. Thompson, Sault Ste. Marie, Mich., of the Great Lakes Towing & Wrecking Co., has received his fine launch, the Viva, recently purchased in Port Huron. The boat is 40 feet over all by 10 feet beam, and is one of the finest pleasure craft on the river. It has accommodations for 15 persons, besides the crew, and has an average speed of 12 miles. The boat will be employed for outing purposes only.

KINGSTON ONT.

Special Correspondence to The Marine Record.

The steamers New York and Ramona will lay up near the government dry dock.

M. R. Davis is preparing plans for a forty-five foot steam yacht to be built here this winter for a Buffalo, N. Y., man. The yacht will cost $3,000.

It is believed that Mackenzie & Mann will interest themselves in the locomotive works. They may get an order for 15 locomotives for the Intercolonial railway.

The steam yacht Sweetheart, owned by A. B. Chaffey, of Montreal, who summers on Stave Island, near Alexandria Bay, has arrived here to go into winter quarters.

The steamship Rosemount and consorts, from Fort William with 190,000 bushels of wheat, arrived at the M. T. Company elevator on Monday. She cleared for Chicago.

The Kingston city council has passed a by-law to grant $50,000 to Queen's college. The vote will occur on October 16th. The merchants favor the grant. Laboring men seem to oppose it.

The steamer from Charlotte to Port Hope and Cobourg makes her last trip October 13th. The last trip between Charlotte, N. Y., and Kingston, via Bay of Quinte, will be from Charlotte, October 13th, and from Kingston, Sunday, October 7th.

Two of the Standard Oil Co.'s barges, or oil tanks are at Garden Island. They may possibly make one more trip this season down the lakes to Montreal. If the present trip succeeds in filling the tanks at the metropolis no more trips will be made.

The tugs Dey, of Cardinal, and Thistle, of Kingston, are in Davis' dry dock for repairs. The latter tug is owned by the Lake Ontario Fish Co., and will be placed in commission by that company, which has lately been using sail boats for their business.

The steamer North King had hard luck on her last trip of the season to Rochester. One of the paddle wheels became disabled when the vessel was well out in the lake off Brighton. She drifted for about six hours, when, repairs having been effected, she put into Port Hope.

This week a board of government steamboat inspectors will assemble here to examine into the qualifications of Paul Reid for the position of local government inspector of hulls. The board will consist of Edward Adams, Ottawa; James Evans, Toronto, and a third inspector from Quebec.

On Wednesday, the 12th inst., the schooner Macdonald, owned by Charlotte parties, was blown ashore on Point Frederick, opposite the cottages on the royal military college grounds. She was light and went on easy and it is expected she will not be much damaged. The accident was caused by her anchor dragging.

The canal boat Stetson foundered in Lake Ontario during a heavy storm. It had been purchased by Capt. Ira B. Folger, and was being towed by the steam barge King Ben from Oswego to Kingston to be used as a lighter. Capt. Folger states that he held on to the boat as long as possible, but had to let go. The crew were taken off safely.

In all probability a steamer similar to the Rideau Queen will be built this winter for the Rideau route. It has been found that greater through accommodation will be required next year on account of the New York Central Railroad Company advertising the Rideau. In that case the steamer James Swift will be made into an excursion boat.

Mr. Bronkhe, representing the Carnegie Steel Co., of Pittsburg, Pa., interviewed Capt. Thos. Donnelly. Mr. Bronkhe's company intends to carry on an extensive trade by water from Pittsburg to London, Eng. The object of the interview was to ascertain from Captain Donnelly the draught of water and style of ships best suited for the service.

Monday, the 10th inst., seemed to be a good night in the council for union labor. Alds. Donnelly and Wright were both out looking after the interests of the working man. Donnelly fought hard to have union labor recognized in the erection of the new building at Queens, and quoted as an illustration the excellent system which prevails in Toronto in matters of this kind.

Veterinary Surgeon Massie, now with the Canadians in South Africa, writing to W. J. Savage, this city, from Beamsfield, under date of August 17th, states that he is now on the line of inspection. There will be a good opening there for mechanics when the war is over. Everything is now very dear. Dr. Massie was obliged several times to pay sixpence for tea alone. Wages for mechanics are very high. He expected to be home about two months after the date on which his letter was written.

O. R. Sprague, mining expert, who is in the city, returned lately from a prospecting tour through the Ames property in Storrington township. A large deposit of magnetic ore was found (in sight). Several veins, rich in molybdeniet, were located. This mineral is marketable at $550 per ton, and is largely used in the manufacture of armor plates, being considered superior to nickel steel. Galena veins are noticeable to a considerable extent. Two portable engines will be shipped to the property. A force of men will be put to work at once.

CLEVELAND.

Special Correspondence to The Marine Record.

Iron ore charters have been placed this week at 70 cents, but, 65 cents has been taken from the head of the lakes.

There is no change in coal freight rates, 30 cents holding to all ports except Green Bay, which is paying 5 cents better.

Capt. John Preston has been appointed master of the steamer George W. Roby in place of Capt. Robert Pringle, who resigned.

Mr. Martin Mullen, the well known coal man, is home from Europe, where he spent two months visiting points of interest in England, Ireland and France.

Shippers are not in need of tonnage, as most of them have about all they can do to handle their contract vessels. This month will show a falling off in the movement of iron ore.

The coal movement to Lake Superior is very light, nothing going there but contract tonnage. A few boats are chartered now and then to Portage, and a few more to Ashland, but to Duluth the contract tonnage is carrying all of the coal.

The movement of lumber has become a matter of interest now even as the conditions surrounding it have been a matter of surprise for the last few weeks. Marine men have not been able to count on the lumber market for months, and it has been a matter of surprise to many how it was conducted.

The Brown Hoisting and Conveying Machine Co., has just issued a handsome illustrated catalogue of 150 pages. The book is substantially bound, is printed on heavy paper and contains numerous photographic reproductions in which some of the various plants installed by this firm are shown. The typography and illustrations are as nearly perfect as possible and combine to make an unusually attractive volume.

The contractors having in charge the extension of the east arm of the breakwater lowered into position another crib yesterday, this being the second on the deflection toward the shore. They have arrangements made for putting down another crib soon, which is now under construction in the yards of the L. P. and J. A. Smith Company, which will be lowered as soon as done, if the weather permits.

M. H. Sullivan, first vice president of the International Longshoremen's Association, states that he and H. Coulby, manager of the N. Y. P. & O., docks in Cleveland, have agreed upon Robert C. Moodey of Painesville as arbitrator in the trouble over the unloading of the iron ore cargo of the steamer Simon J. Murphy, which was tied up at the N. Y. P. & O. docks some weeks since. It is understood that Mr. Moodey will act as arbitrator.

Coal shippers are pretty well filled up with tonnage for this week and the tonnage feeling is easier. The cutting off of the hard coal movement out of Buffalo has increased the offerings of tonnage at Ohio ports and shippers are getting all the vessels they can care for. A large number of vessels are under charter to load for Lake Michigan this week. Wild ore cargoes are not offered very freely, but there are few vessels on the market, and there is no indication of a change.

About the first of October, Capt. Ben Tripp intends to go to Georgian Bay, to act as a pilot for grain boats coming into that district. From the first of October to the end of the season of navigation the movement of grain to Georgian Bay is quite heavy, the shipment being made to these points reached by the Canadian railroads for shipment to Montreal. The demand for pilots there is large during those seasons, as the channels are treacherous, owing to the number of reefs which must be avoided.

There is a better demand for lumber carriers, both because the smaller boats are pulling out of the trade and because some of the shippers have been making heavier sales of late. There has been no marked change lately in the rate, however much the vesselmen might wish it. Grain boats are in better demand, therefore, the rates being upheld more rigidly than they have been, but no advance noted. The ore situation is about as it has been, a few cargoes being taken now and then at old rates.

It was decided some time ago to settle the trouble over the unloading of the iron ore cargo of the steamer Simon J. Murphy, by arbitration, and it is expected that the gentlemen who will have charge of the matter will get together next week. The men will be represented by Mr. W. H. Sullivan of Fairport, first vice president of the International Lonshoremen's Association, and Mr. H. Coulby will look after the interests of the dock company. The third party up to the time of writing has not been decided on.

Arrangements have been made for a number of autumn excursions to Niagara Falls by the Cleveland and Buffalo Transit Co. In speaking of them this week W. F. Herman, the general passenger agent, said: "Who is this person who has been saying that the Niagara Falls season for this year is over? When that time comes the C. & B. boats will know of it, and we haven't heard the horn blow yet. We are just running two or three down there ourselves and we find that the autumn season, when the weather is fairly cool and the leaves changing, brings out fully as many people as go during the summer season."

Capt. John Mitchell, as one of the committee of the Lake Carriers appointed to investigate the subject, returned from Port Huron on Monday. Capt. Mitchell said that Col. Lydecker, Corps of Engineers, U. S. A., is going to have the wreck of the schooner Fontana removed, and the channel cleared as soon as possible. The spars of the schooner John Martin will be taken out and the channel over the wreck will be swept to learn how much water there is over the vessel. If the wreck is in sixty-two feet of water, as stated by some parties, the wreck will not have to be removed. As there will be plenty of water over her to continue safe navigation.

Mr. R. L. Ireland, vice president of the American Ship Building Co., closed a contract for another large steel steamer, making thirteen vessels he has closed for with local parties, to come out at the opening of navigation next season. The order for the new steamer, which will be a duplicate of the boats ordered by Mr. J. C. Gilchrist last week, was placed by Capt. Charles L. Hutchinson. A number of local parties are interested with him in the deal and a company will be organized to operate the new boat. She will be 366 feet over all, 346 feet keel, 48 feet beam and 28 feet depth of hold. She will have Scotch type boilers. The steamer will cost about $215,000.

The Cleveland Naval Reserves have a training ship of their own. The name of the new boat is the Hawk. Secretary Hay obtained permission from Lord Pauncefote for a boat to be brought through Canadian waters to Lake Erie. The trip will be up the Atlantic coast, the St. Lawrence and thence through the Welland canal to Lake Erie. Following is a description of the Hawk, as she is today: The United States steamer Hawk (formerly the Hermione) was built by Fleming & Ferguson, Paisley, Scotland, in 1891, and purchased by the United States government from the Henry L. Pierce estate April 2, 1898. She is a steel, single screw steamer, schooner rigged, with quadruple expansion engines and of the following dimensions: Length on water line 145 feet, length over all 160 feet, breadth 22 feet, mean draft 11 feet 6 inches, displacement 375 tons, gross tonnage 270 tons, net tonnage 99 tons, bunker capacity 70 tons, indicated horse-power 1,000, speed 14.5 knots. She was first commissioned in the United States navy April 5, 1898, with a crew of four officers and forty-six men.

By a recent discussion, an old idea touching the ability of boat passengers to get out of the hollow along the river, has been revived. The plan is under contemplation by the Detroit & Cleveland Steam Navigation Co., although a project with a broader scope is discussed along the river. The idea of that concern is to some day add to the building they now occupy another story and run an elevator to the top. From this structure a bridge is to be placed across the foot of Superior street to the viaduct, thus allowing the passengers to get up and down easily, without the danger and annoyance of the railroad track. The other plan is to importune the street railroad companies until they put a street car line down along the river so that passengers may get to the top of the hill without straining every muscle to accomplish the feat. Such a street car line might be rather unhandy to construct, but it is believed that it is possible if gone at in the right way. It is altogether possible that one or the other of these plans will be matured before the opening of the season of navigation next spring.

General Manager James C. Wallace and Vice President R. L. Ireland, of the American Ship Building Co., visited all the plants of the company last week and on their return they decided at which yards the keels of the twenty vessels now under contract for 1901 delivery will be put down. Eight of the vessels will be built in this district, which means Cleveland and Lorain. The big twin screw car ferry for the Pere Marquette Railway Co., which will come out a year from next month, will be built at the local yard. In addition to the car ferry, the two big steamers for Capt. John Mitchell and a 4,000 ton steamer for Charles L. Hutchinson and others will be built at the old Globe yard. The Lorain yard will get four of the six steamers ordered by Mr. J. C. Gilchrist. The other two Gilchrist steamers will be turned out at the Detroit yard, as will a steamer for David Whitney of that city. The schooners for the Calumet Transit Co., of which Mr. D. R. Hanna is president, will be built at Bay City and two steamers for the same company will be turned out at West Superior. The keels for five steamers will be laid down at the South Chicago yard. Four of them are of the Welland canal size and will be sent to the coast. There are also a number of others under consideration some of which may be closed within a few days.

THE torpedo boat Barney was recently launched at the Bath Iron Works, and her sister ship, the Bagley, was launched at the same place on Tuesday. The vessel which was named for Ensign Worth Bagley, who fell at Cardenas Bay, Cuba, May 11, 1898, was christened with champagne by Mrs. Josephus Daniels, a sister of Ensign Bagley. Mrs. Bagley, mother of the ensign, and other relatives were among the guests of the builders. These two little craft were designed by the Bath Iron Works and resemble in design the torpedo boats Dahlgren and Craven, already in commission at Newport. The Barney is named for Capt. Joshua Barney, who commanded the Hyder Ali in the action of April 8th, 1782, when she captured the English vessel General Monk. The Barney is considered one of the finest torpedo boats ever constructed for our navy; she has a speed of 28 knots, is 157 feet in length, 17 feet extreme breadth, has a mean draft of 4 feet 7½ inches, and a displacement of 167 tons. She carries three 18-inch Whitehead torpedo tubes and three 3-pounder rapid fire guns. When in commission she will have a crew of twenty-six men and three officers. Her engines are considered by naval experts as extremely fine, being vertical, quadruple expansion, having a horse-power strength of 4,200. The Barney and the Bagley are twin-screw ships. The contract price of these vessels is $161,000.

DETROIT.

Special Correspondence to the Marine Record.

The Jenks Ship Building Co., Port Huron, has laid the keel for a steamer which will be a duplicate of the steamer Ravenscraig. She is being built on speculative account and will be for sale when finished.

The rock drill Destruction, while working on Ballard's reef, Detroit river, was run into by an oil barge a few nights ago and had one of her sides stove in. She was brought to Oades' shipyard at Detroit for repairs.

Passing vessels which may pick up any bodies of the Martin victims are requested to notify the Kendall Marine Reporting Co., Port Huron, Mich., which is looking after them on the account of M. A. Bradley, owner of the sunken boat.

Harry C. Barter, secretary and treasurer of the International Longshoremen's Association, will go to New York next week to organize longshoremen there into the international association. A review of the past season's work which Mr. Barter is issuing, shows a prosperous condition of all the unions.

The wrecker Wales returned from the Specular wreck and the examination shows that the hole in the bow can be readily patched up, and in the opinion of Capt. Quinn, submarine worker and one of the most expert divers in the country, who went down to make the examination, the steamer can be easily raised.

Judge Swan, of Detroit, heard arguments Tuesday in the suit of Stephen Baldwin vs. the Liverpool & London & Globe Insurance Co., an action brought to correct a clerical error in a fire insurance policy on the wrecking tug Seagull, and to enforce the policy. On April 24, 1894, application was made for a $4,000 policy of insurance on the Seagull in the defendant company. Six days later she was burned, and the company refused to pay the insurance on the ground that the policy was dated May 2.

Bids were opened this week in the office of Col. Lydecker, Corps of Engineers, U. S. A., for the removal of the wreck of the schooner Leader, which sunk in the Detroit river, midway between Belle Isle and Windmill Point last spring, after a collision with a Montreal Co.'s steamer. The hull lies west of the channel, about eleven feet distant, and is under water. There are 500 tons of coal on board. John S. Quinn & Co. bid $1,750 and the Michigan Wrecking and Salvage Co. bid $3,500. The contract will be awarded in a few days.

At the yards of the Craig Ship Building Company, Toledo, a steel steamer for Atlantic coast service is being finished up for J. L. Crosthwaite, of Buffalo, who represents large southern lumber interests, and at this yard also a steamer of Welland canal dimensions is to be built for the Hawgoods of Cleveland, but there is still room for another ship or two that might be completed about the opening of navigation next spring. A second Crosthwaite steamer, also intended for salt water service, is nearing completion at the works of the Union Drydock Co., Buffalo.

While dragging for the cable chain lost off the steamer James Watt at the time of her collision with the steamer Maruba near the Limekilns a few weeks ago, the crew of the wrecking tug Reliable brought to the surface a section of wheel chain about thirty feet in length and about thirteen feet of an old boiler flue. The chain and the flue are supposed to have been a part of the old-time passenger steamer Brooklyn of the old Northern Transit line, which, during the early seventies, was operating a line of passenger steamers of the then Welland canal size between Ogdensburg and Chicago. The Brooklyn was lost through an explosion of her boilers in 1874, and she carried with her several lives.

Some steamboat captains have failed to pay any attention to the rules of Col. Lydecker, Corps of Engineers, U. S. A., for running past the wrecks in the river and it is his intention to proceed against the offenders in the general interest of navigation. Under the law he has full power to do this, and captains who have run the rapids when they were told to wait for orders will be asked to pay some big fines. Col. Lydecker was pleased to learn that as a general rule shipmasters have obeyed the regulations and everything has gone off smoothly. It is hoped within the next day or two conditions may be so improved by the removal of the obstructions caused by the Martin that a modification of the rule may be made.

The wreck of the steamer Martin lies in water from 30 to 60 feet in depth, and pilots say that if her spars and cabin are removed, it will scarcely be necessary to blow up the rest of the hull, as the deepest draft boats will then have no difficulty in getting over it. Col. Lydecker, Corps of Engineers, U. S. A., in charge of these waterways, after conferring with a committee of the Lake Carriers' Association, has announced that he will at once take charge of the wreck and that the Martin's mizzenmast and that portion of her upper works which might interfere with the passage of boats over her will be pulled off. Soundings will then be taken to ascertain if it will be safe to allow deep draft boats to go over the wreck. As regards the wreck of the Fontana, it will be about a week before work will be started on its removal. Bids will be opened by Col. Lydecker Oct. 2. After the job of blowing up the wreck is let, there may be some delay on account of adverse conditions in the channel.

Freight rates: Chicago, 30 cents; Mllwaukee, 30 cents; Duluth, 30 cents; Racine, 35 cents; Lake Linden, 35; Manitowoc, 30 cents; Gladstone, 30 cents; Toledo, 25 cents; Green Bay, 30 cents; Sault, 30 cents.

THE CELESTIAL WORLDS.

Fourteen times since men began to write their records of the skies has the birth of a star been seen, says the Boston Evening Transcript. Surely we must use this term when we speak of the sudden appearance of a brilliant luminary where nothing visible existed before. But we shall see farther on that scientific considerations make it at least probable that the phenomenon in question does not really involve the creation of new matter. It is old material becoming suddenly luminous for some hidden reason. In fact, whenever a new object of great brilliancy has been discovered, it has been found to loose its light again quite soon, ending either in total extinction or at least in comparative darkness. It is for this reason that the name "temporary star" has been applied to cases of this kind.

The first authenticated instance dates from the year 134 B. C., when a new star appeared in the constellation Scorpio. It was this star that led Hipparchus to construct his stellar catalogue, the first ever made.

The work of Hipparchus became the foundation of sidereal study, and led to most important discoveries of various kinds. But no records remain concerning his new star except the bare fact of its appearance in Scorpio.

More than five centuries elapsed before another similar occurrence was entered in the records of astronomy. This happened in the year 389 A. D., when a star appeared in Aquila, and of this one also we know nothing further. But about twelve centuries later, in November, 1572, a new and brilliant object was found in the constellation Cassiopeia. It is known as Tycho's star, since it was the means of winning for astronomy a man who will always take high rank in her annals, Tycho Brahe, of Denmark. When he first saw this star it was already very bright, equalling even Venus at her best, and he continued a careful series of observations for sixteen months when it faded finally from his view.

An important question in cosmic astronomy is opened by Tycho's star. Did it really disappear from the heavens when he saw it no more, or had its lustre simply been reduced below the visual power of the unaided eye? The latter theory classes temporary stars among those known as variable. For many stars are known to undergo quite decided changes in brilliancy, possibly inconstancy of light is the rule rather than the exception. But while such changes, while they exist, are too small to be perceptible in most cases, there is certainly a large number of observable variations of light. Astronomers prefer to see in the phenomena of temporary stars simple cases of variation in which the increase of light is sudden and followed by a gradual diminution.

Possibly there is then a long period of comparative or even complete darkness, to be followed as before by a sudden blazing up and extinction. No temporary star, however, has been observed to reappear in the same celestial place where once had glowed its sudden out-burst. But cases are not wanting where incandescence has been both preceded and followed by a continued existence, visible though not brilliant.

Some time between the 10th and 12th of May, in the year 1866, the ninth star in the list of the known "temporaries" appeared; it was surpassed in brilliancy by only about a score of stars in all the heavens. It retained a maximum luminosity only three or four days, and in less than two months had diminished to a point somewhere between the ninth and tenth magnitudes. In other words, from a conspicuous star, visible to the naked eye, it had passed beyond the power of anything less than a good telescope. Fortunately we had excellent star catalogues before 1866. These were searched, and it was possible to settle quite definitely that a star of about the ninth or tenth magnitude had really existed before 1866 at precisely the same point occupied by the new one. Needless to say, observations were made of the new star itself, and of the faint one that still occupies its place. These render quite certain the identity of the temporary bright star with the faint ones that preceded and followed it.

Nothing can be more plausable than to explain by analogy those cases in which no previous or subsequent existence has been observed. It is merely necessary to suppose that instead of varying from the ninth or tenth magnitude other temporary objects have begun and ended with the twentieth; for the twentieth magnitude would be beyond the power of our best instruments.

Nor is the star of 1866 an isolated instance. Ten years later, in 1876, a temporary star blazed up to about the second magnitude, and returned to invisibility so far as the naked eye is concerned, within a month, having retained its greatest brilliancy only one or two days. This star is still visible as a tiny point of light. Whether it existed prior to its sudden outburst cannot be known, because we do not possess catalogues including the generality of stars as faint as this one must have been. But at all events the continued existence of the object helps to place the temporary stars in the class of variables.

The next star, and the last of very great interest, was first seen in 1885. It was in one respect the most remarkable, for it appeared almost in the center of the great nebula in the constellation Andromeda. It was never very bright, reaching only the sixth magnitude or thereabouts, was observed during a period of only six months, and at the end of that time had faded beyond the reach of our most powerful glasses. It is a most impressive fact that this event occurred within the nebula. Whatever may be the nature of the explosive catastrophe to which the temporary stars owe their origin, we can now say with certainty that not even those very elemental luminous clouds men call nebulae are free from danger.

NEW CAR FERRY.

The American Ship Building Co. has closed a contract for the construction of a steel car ferry for the Pere Marquette Railway Co., which will cost about $360,000. She is to be operated on Lake Michigan. The new boat will be more powerful than the steamer Pere Marquette, which was built by F. W. Wheeler in 1896, but otherwise she will be a duplicate of that steamer, which is the best vessel of her class on fresh water. The new boat will be 338 ft. keel, 350 ft. over all, 56 ft. beam, and 36½ ft. molded depth. She will have capacity for thirty-two cars, and when loaded she will run at the rate of fourteen miles an hour. She will have twin screws, and two triple expansion engines. Steam will be furnished by four Scotch type boilers. According to the contract the new boat is to be completed for business Oct. 1, 1901. Although it has not been definitely settled where the big ship will be built, the keel will probably be put down at the old Globe yard in Cleveland. Mr. Robert Logan, who designed the steamer Pere Marquette, prepared the plans and specifications for the new boat, and he will superintend her construction for the owners. The officials of the Pere Marquette company have been figuring for a number of months, ever since the price of material started to drop. Work on the new boat will be started as soon as the material can be secured. This deal makes twenty vessels the American Ship Building Co. has under contract, and some more figuring is being done.

VISIBLE SUPPLY OF GRAIN.

As compiled for THE MARINE RECORD, by George F. Stone, Secretary Chicago Board of Trade.

CITIES WHERE STORED.	WHEAT. Bushels.	CORN. Bushels.	OATS. Bushels.	RYE. Bushels.	BARLEY Bushels.
Buffalo	3,909,000	150,000	408,000	3,000	77,000
Chicago	13,369,000	1,701,000	2,999,000	463,000	17,000
Detroit	448,000	47,000	222,000	100,000	8,000
Duluth	6,402,000	55,000	36,000	49,000	201,000
Fort William, Ont.	943,000	.....	.....	.....	.....
Milwaukee	795,000	259,000	247,000	.....	5,000
Port Arthur, Ont.	67,000	.....	.....	.....	.....
Toledo	1,208,000	380,000	1,626,000	28,000	5,000
Toronto	29,000	.....	1,000	.....	6,000
On Canals	174,000	189,000	37,000	17,000	69,000
On Lakes	1,870,000	2,787,000	1,408,000	58,000	81,000
On Miss. River	.....	.....	.....	.....	.....
Grand Total	54,993,000	7,322,000	11,659,000	869,000	784,000
Corresponding Date, 1899	39,228,000	8,850,000	6,383,000	760,000	882,000
Increase	1,066,000	1,720,000	1,312,000	75,000	131,000
Decrease	.....	.....	.....	.....	.....

While the stock of grain at lake ports only is here given. the total shows the figures for the entire country except the Pacific Slope.

THE NORTH GERMAN LLOYD will add two large and fast steamships to their New York and Bremen fleet. Both vessels are under construction at the Vulcan Works at Stettin, and the first one the Kron Prinz Wilhelm, will be finished up in about six months from now, but will not be placed in service until next autumn. She will be 15,000 burden and 33,000 horse-power. The second vessel is to be named Kaiser Wilhelm II., which will be the longest ship afloat, being about 706 feet in length, with a beam of 70 feet. Both vessels are to be built for speed, and it is expected that they will sustain a speed of nearly 24 knots in crossing the Atlantic. The company has at present a steamer named Kaiser Wilhelm II., but will change the name, giving the new ship the honor.

NOTES.

FROM France comes the intelligence that the government is about to begin the expenditure of 146,500,000 francs upon improvement of harbors and wharves and the starting of shipyards. The expenditure at Cherbourg will amonnt to 39,000,000 francs; at Brest, 29,750,000 francs; at Rochefort, 5,159,000 francs; at Toulon, 16,800,000 francs; at Dakar and Daigon, 13,550,000 francs—and so on to the amount of 146,500,000 francs.

WHEN the British torpedo boat destoyer Viper steamed 43 miles an hour on July 13 last, she smashed all previous records for water craft. It was expected at the time that her sister ship, the Cobra, having some points of advantage, could wipe out even this record. This expectation was realized on Saturday, when the Cobra steamed over the same course at the extraordinary rate of 37.7 knots, or about 43½ miles an hour. Her engineers say she will do better than this when she is put on her official trial. Even another knot is talked of.

A MOUNTAIN of copper has been discovered at Howe Sound, not far from Vancouver, by prospectors engaged by H. W. Treat, of New York, and Sir Charles Tupper. On one claim nature has done what a gang of 200 miners could not do in five years. A stream of water has worn away the soft schist and exposed a cliff of copper ore 428 feet high. Surface openings have also been made with powder, which exposes the big quarry of copper for 1,500 feet. The tremendous out-cropping is less than half a mile from the famous Britannia group of prospects, which sold in London last month for $1,500,000, and it is said there is more ore here in sight than in the Britannia, which has 9,000,000 tons in sight.

FROM an interesting article in the current issue of the Atlantic Monthly, on "Submarine Signaling and Marine Safety," we learn that a system of acoustic triangulation for determining the position of a vessel by means of sound signals transmitted from three different stations located at certain known points, has been perfected by Mr. Arthur J. Mundy, a Boston gentleman. Mr. Mundy has, it appears, been studying the problem of submarine signaling in association with the eminent physical scientist, Professor Elisha Gray, and together they have invented a remarkably successful apparatus for the purpose—ringing a bell under water by electrical connections. A series of careful expariments shows that sound can be thus transmitted unerringly, controlled by electric connections, and heard on shipboard at a distance of two miles, simply by pressing one end of a wooden rod against the skin of the vessel anywhere below the water-line, and holding the other end firmly against the ear. With a special telephone receiver, however, invented for the purpose by Professor Gray, the signals can be heard more than five miles away. This instrument may be attached to the outside skin of the ship under water, near the keel on either side of the bow, like a pair of ears, with wire connections made to the pilot house therefrom, or it may be dropped over the side like a sounding line when there is any occasion to use it.

THERE is no doubt that the coal deposits in China are the largest in the world, says Engineering, London, and Herr von Richthafen, the famous geographist, estimated the anthracite coal deposits in the southern portion of the province of Shanghai at 630 milliards of tons. But these are only a small part of China's wealth of coal, more especially in the provinces of Shangpi, Hunan, Shantung, Szetschwan and Yunnan. The deposits in the two latter provinces seem more especially to tempt the French. The Manchurian coal deposits are already, to a great extent, under direct Russian control. The mining of coal in China is far older than in Europe, more especially in the western and northern part of the Chinese empire, where it dates back more than a thousand years. That the manner in which the Chinese exploit their coal mines is entirely out of date goes without saying. In the vicinity of Pekin there is, according to the reports of certain travelers, a coal mine worked out on a somewhat larger scale for the Imperial palace; but otherwise the owner of the land where coal is found generally confines himself to breaking it for his own private use, selling a little perhaps to his more immediate neighbors. Still there are mines, which, with the most primitive working, yield some 200 to 300 tons a year. The Kaiping coal mine is, of course an exception to the rule, being worked on a large scale, in completely rational European manner, with output of 600,000 or 700,000 tons of coal a year. The mines, which are under the management of a high mandarin, supply the coal to the Chinese railways.

COAL CONSUMPTION BY MARINE AUXILIARY MACHINERY.

The amount of coal used by the auxiliary machinery on board ship has always been known to be a goodly proportion of the total consumed, and it has been recognized as well that condensation in long lines of steam pipes to different parts of a vessel accounted for much of the fuel. To how much this amount may be gathered from particulars given by Sir John Durston, engineer-in-chief of the British Navy, of trials of the Britist ship Diadem, according to which the running of one main feed pump, one blowing engine, one auxiliary circulator, one electric-light engine, and two distillery pumps consumed coal at the rate of 6.1 tons per day when two extreme forward boilers were used, or 3.88 tons when two extreme after boilers employed. The same machines, with the addition of two evaporators, working compound, consumed 8.8 tons of coal per day when supplied by the forward boilers, and 7.09 tons when supplied by the after boilers. That is, the length of steam pipe between the forward and after boilers accounted for 2.12 tons of coal per day in the first trial, and for 1.71 tons in the second. Again, it has been found that in the Japanese battleship Shikishima it takes from three and one-half to five tons of coal to run for eighteen hours a day an engine of 65 indicated horsepower situated 160 feet away from the boiler, the total range of steam pipe connected being 500 feet to 600 feet. This works out to from seven pounds to ten pounds of coal per indicated horse power, of which more than half must have been used in keeping the pipes warm. Figures of this kind have naturally been among the heavy-weight arguments of the advocates of electrical equipments for naval auxiliary machinery. They are undoubtedly suggestive of some possible and very telling economies.—From Cassier's Magazine for October.

WATER-TUBE BOILERS IN THE BRITISH NAVY.

With all the criticism that has been heaped on the water-tube boilers used in ships of the British navy and on those responsible for their installation, it becomes interesting and proper that something should be heard of the other side of the question, and it is, therefore, worth while to read the memorandum on the subject, submitted by the British admiralty a few months ago to both houses of Parliament. The document is full of interest and shows how urgent the necessity is of making engineering knowledge of paramount importance in the personnel of a modern navy. In summing up, the report concludes as follows: Surprise is naturally felt by those who are not fully conversant with the whole of the circumstances that difficulties connected with the management of water-tube boilers and high-pressure machinery should take so long to overcome, and they are apt to assume that because they are not all removed in the three or four years that have elapsed since water-tube boilers were introduced into the British navy, they must be insuperable. A little consideration will show that up to the present, and for some time to come, the engine-room staff of every newly commissioned water-tube boiler ship must be largely composed of those who have had no previous experience with this type of machinery, as the number of water-tube boiler ships in commission has, up to the present, borne so small a proportion to the total number of ships for which crews are provided. The rate at which crews can be trained will increase rapidly as more water-tube boiler ships become available, and as special arrangements for training engineers, engine-room artificers and stokers augument the number of men with experience of these boilers.—From Cassier's Magazine for October.

A RECORD OF LAKE TOWING.

Our Chicago correspondent in the issue of Sept. 15, noted that the steamer Maricopa, towing the large steel built barges, or schooners, Manila and Marsala, brought 22,635 net tons of iron ore into South Chicago, consigned to the Illinois Steel Co.

This occurs as being the heaviest tow ever carried on the lakes and is due in a great measure, if not entirely, to the fact, that both of the schooners are fitted with the patented towing machines, manufactured by the American Ship Windlass Co., Providence, R. I.; the vessels being also equipped with windlasses and capstans from the same firm.

There is not an atom of doubt but such considerable tonnage could not have been transported without the aid of the steam towing machine, which works automatically, and will always give and take as the pressure acts on the flexible steel wire tow lines in use by the Minnesota Steamship Co., of Cleveland, O.

SAILORS' SUPERSTITIONS.

Referring to Mr. Benjamin Taylor's interesting work, "Storyology," a notice of which appeared in Fairply of London, the 21st June, I have come across the following passage:

There is, however, a curious survival of the personal element still to be traced in some of the sailors' chanties. Take, for instance, that remarkable one about "Burying the Dead Horse," which still puzzles the passengers on board the packets sailing to the Antipodes. Without going into the question of the song and its attendant ceremonies just now, the following lines may be quoted as bearing on our subject:

You poor old horse, what brought you here,
After carrying turf for many a year?
From Bantry Bay to Ballyack,
When you fell down and broke your back?
You died from blows and sore abuse,
And were salted down for the sailors' use.
The sailors they the meat despise,
They turned you over and —— your eyes;
They ate the meat and picked the bones,
And gave the rest to Davy Jones.

And the offal of a ship is thrown over to Davy Jones—doubtless because there is nothing else to be done with it.

I have heard another explanation of the process known as "burying the dead horse," at any rate in connection with vessels in the Eastern trade. The men when engaged get an advance of wages, consequently when they go on board they have in respect of the period covered by the advance nothing further to receive. They are working, therefore, as they consider it, and as regards the future, for nothing at all. When the period has expired they are again earning prospective wages, and they have, figuratively speaking "buried the dead horse," the dead horse representing in their mind the time during which they had been working off the advance.

Mr. Taylor also gives an explanation of the term "Mother Carey's Chickens," a term generally applied to stormy petrels. The Virgin Mary, known as Mater Cara, was according to Mr. Taylor, "the special protectress of the early Christian seaman, just as Amphitrite had been the tutelary genius of his Greek and Venus of his Roman, progenitors, and just as Isis, the moon goddess, had been the patroness of the Egyptian navigators. The Catholic mariner still believes that the Virgin has especial power over the winds and the sea." The reason for associating the petrel with the Holy Mother may, according to the author, have been found in the supposed sleeplessness, and therefore, presumably, watchfulness of the bird, and so was the type of the care exercised over sailors by the Mater Cara. From Mater Cara to Mother Carey obviously is not far. The author translates the expression "Davy Jones' Locker" on similar lines. "Davy" comes from "Deva," The Shining One, but in the operation of what is called "the degradation of deities," in the Oriental religions it became synonymous with our devil. "Jones" is a corruption of Jonah, and "Locker," the deep sea bottom, the place to which the body was committed, and to which the souls of the wicked fled. I think there are a great many people to whom this explanation of familiar but highly puzzling terms will be new. I confess that although I have had a pretty intimate acquaintance with stormy petrels, especially in their breeding-places, I was not aware why they were called by the name so familiar to sailors, and I have also very often been puzzled to make out why Davy Jones should be generally connected with disaster to sailors.

AN OUTLET TO THE COAST.

The Committee on Federal Relations of the Chicago Drainage Canal Board has decided to lend its influence to Government Engineer Seddon, in agitation for the carrying out of his plan for securing a deep waterway from Lake Michigan to the Gulf of Mexico. This contemplates a system of dykes and reservoirs extending several hundred miles south of Cairo, in which to store water during flood times for release at low water periods. The total cost of the waterway, which shall nowhere be less than twenty feet deep at all stages—a distance of 1,600 miles—is estimated to be from $150,000,000 to $200,000,000.

THE German-built Japanese armored cruiser Yakumo has sailed for Japan. Some changes have been made in the disposition of her 12-pounders. There are now two up by the coning tower forward, two similarly placed aft, four on the upper deck above the main deck casemates, two right forward and two right aft. In the original design the placing was slightly different.

SHIPPING AND MARINE JUDICIAL DECISIONS.

(COLLABORATED SPECIALLY FOR THE MARINE RECORD.)

Contributory Fault—Privileged Vessel.—The one of two steam vessels crossing which is privileged cannot be held liable to contribute to the damage resulting from a collision due to the failure of the other vessel to keep out of the way because she failed to stop and reverse as soon as she might have done, where, until it was too late to avoid the collision she had no reasonable notice that the other vessel would not perform her duty. The Republic, 102 Fed. Rep. 997.

Treaties—Consular Powers—Deserter from Navy of Foreign Nation.—A seaman who has deserted from the Russian navy while under assignment to a vessel in course of construction in this country, but which has not as yet been acquired by the Russian government, and whose crew has not yet been organized, is not a deserter from a ship of war, within article 9 of the treaty of December, 1832, between the United States and the empire of Russia, providing that consuls and vice-consuls may require the assistance of the local authorities for the arrest and detention of deserters from the ships of war and merchant vessels of their country. United States ex rel. Alexandroff vs. Motherwell, keeper of the Philadelphia county prison, et al., 103 Fed. Rep. (U. S.) 198.

Evidence of Desertion.—Under article 9 of the treaty of December, 1832, between the United States and Russia, providing for the arrest and imprisonment of deserters from the ships of war of their country upon application of consuls and vice-consuls, in writing, to the competent tribunals, and proof, by the exhibition of the registers of vessels, the rolls of the crews, or other official documents, that such individuals formed part of the crews, one who has been imprisoned as an alleged deserter from the Russian navy on application of a Russian vice-consul will be released on habeas corpus, where no register or roll of the crew, or other official document substantiating the vice-consul's averment, is produced. United States ex rel. Alexandroff vs. Motherwell, keeper of the Philadelphia county prison, et al., 103 Fed. Rep. (U. S.) 198.

Salvage—Amount of Award.—The Penobscot, a schooner, valued with her cargo, at $11,750, was on a shoal at the mouth of the Cape Fear river, where she had been for two hours in a position of imminent danger, the wind and the tide driving her further ashore; and the testimony showed that, without assistance, she would undoubtedly have been lost. Her crew had hoisted a signal of distress, and were preparing to abandon her. There was no one near able to render assistance except libelant, who was owner and master of a passenger steamer worth $20,000 or $25,000, lying at a wharf within sight. Seeing the danger of the schooner and her signal, he landed his passengers and went to her relief, at considerable risk to his vessel and crew, and, after half an hour's work, succeeded in pulling her off the bar, and towed her to Wilmington. Held, that the services performed were not of a low order of merit, to be compensated by payment for the actual work done, but that libelant and his crew were entitled to a salvage award of $2,000. The Penobscot, 103 Fed. Rep. (U. S.) 205.

Salvage—Amount of Award—Towage Services.—The W., a steamer carrying freight between New York and New Orleans (her value being $150,000, her freight $10,000, and her cargo of the value of $550,000), became wholly disabled in a hurricane on the high seas. The V., a steamer valued at $250,000, carrying passengers and mails from New York to Havana, sighted the W., and, in answer to her signals of distress, came to her asistance, and, by request of her master, towed her safely to the port of Nassau, 250 miles, the trip requiring about three days. A boat of the V. made three trips to the W., at some peril, to carry hawsers, two of which parted. No other vessel was at hand, and, although the W. was in the track of steamers when picked up, she was drifting out of it. Held, that the V. was entitled to a salvage award of $23,000, in addition to her expenses, to be apportioned pro rata between the W., her freight and cargo, and to be distributed, $3,500 to the officers and crew of the V.,—an extra allowance being made to the seamen who manned the boat,—and the remainder is the award. The Winifred, 102 Fed. Rep. (U. S.) 988.

VESSELS CLASSED.

Vessels classed and rated by the American Bureau of Shipping in the Record of American and Foreign Shipping, New York: Schooner Geneva, schooner J. Edward Drake, 3 masted schooner J. Manchester Haynes, 3 masted schooner James B. Jordan, and Swedish schooner Aino.

A COMPARISON of armaments of British and German battleships shows that the cost of the latter is nearly double that of the British ships. The German battleships are about 11,800 tons and carry main batteries—four 9.6-in., eighteen 6-in. guns and six torpedo tubes at a total cost, including the smaller guns, which are about the same in number on both ships, of $1,250,000. The British type is 15,000 tons, carries four 12-in., twelve 6-in. and four torpedo tubes at a cost of $630,000. The main battery of the Oregon is composed of four 13-in., eight 8-in., four 6-in. and two torpedo tubes and cost $585,599, including the secondary battery, and the Iowa's four 12-in., eight 8-in., six 4-in. and four torpedo tubes are reported to have been installed for $583,859. The extraordinary cost of the German battery is susceptible to the explanation that cheap labor is very expensive.

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CLEVELAND, O., SEPTEMBER 27, 1900.

LOWERING LAKE LEVELS.

Many matters of marine interest developed before the last Committee on Rivers and Harbors of the House and the representations of the commercial interests of the lakes differ materially with the prospective changes tending towards manipulation and divergence of the waters from the reservoir that empties into the Niagara river, thence to Lake Ontario, to the St. Lawrence and the ocean. The promoters of the improvements have met strong opposition in important hearings, the first of which was the matter pertaining to the advisability of placing a dam in the Niagara River, and, the second, the proposed canal of the Michigan-Lake Superior Power Co.

The evidence presented at both hearings creates the impression that the Niagara dam was the offspring of the power canal at the "Soo," and the ignoring of the first project by the Lake Carriers' Association, together with the presence of a large delegation from that body at the second, rather confirms the assumption that if the canal project is killed the Niagara dam proposition does not become a vital necessity. The gist of the matter shows that capital is clashing on the lakes, with the Lake Carriers' Association side of the argument fortified by the fact that commerce must be maintained at all hazards.

The testimony of the engineers seemed to be at a premium in opposition to the "Soo" canal.

Three millions of dollars have already been invested in the canal, and a like figure is available to complete the work. The object is to divert one half of the volume of water that now goes through the Sault Ste. Marie rapids and take it through the new canal, where it is to be used for electric power purposes, and will pass out of the canal into the St. Mary's river, two miles below the first rapids. It is approximately stated that 60,000 cubic feet of water goes through the rapids per second under present conditions, and, by the introduction of the canal, 30,000 cubic feet per second will be diverted to that waterway. The process, one side declares, will in all likelihood lower the level of Lake Superior probably two feet, and at any rate, at least two and one-half inches.

THE construction of the interprovincial bridge to span the Ottawa river from Gatineau Point, near Ottawa, to Hull, Que., is being pushed with much vigor. It will be completed in September. The anchor arm for the northern part of the cantilever span, and that part of the span itself, are all that are required now to make connection with both sides of the river. The span is the second or third largest of its kind on the American continent, the largest, probably, being in Memphis, Tenn. That portion projecting from the southern side is some 275 feet in length.

DETROIT MARINE POSTOFFICE.

Sailors aboard passing boats sent over to be mailed to people ashore a total of 12,269 pieces last month, while but 8,350 pieces were taken off in May, 1899. The sailors themselves are beginning to use the mails, and the increase is a fraction less than 47 per cent. Actual deliveries to boats numbered 37,761 for this year, as against 25,637 for May last year, an increase of over 47 per cent.

This growth has not been caused by a greater number of boats on the lakes, for, indeed, the tendency is always toward larger and fewer boats, and the total passages for May, 1900, are not much ahead of those for May, 1899, the figures being 3,150, against 2,976. Some record days are notable. The leaders for May, 1900, were 2,116 letters received from main office on the 26th, 602 received from passing boats on the 26th, and 1,706 delivered to boats on Decoration Day. In 1899 the winners were the 30th, with 1,400 receipts from office; 26th, 453 from boats, and the 26th, with 1,233 deliveries.

The recently established money order system has jumped into instant favor. It fills a long-felt want, and now sailors can send their money to their families, knowing that it will arrive safely and run no risk of being lost. For the month receipts amounted to $2,881. Within the very near future the registry system will also be inaugurated, and for sending large amounts of money it may outrival even the money order business, as the fee will be less.

So great is the rush of business that the two clerks have difficulty in keeping ahead of the press of mail, and it is announced in the main office that Postmaster Dickerson has requested the Washington authorities to appoint another clerk.

BIG STEAMERS.

When the Great Eastern was launched, nearly a half century ago, and proved such a signal failure, as a practical and paying ocean carrier, shipbuilders the world over predicted that no vessel approaching her size would ever again be built. They seemed to be right, too, as for a decade or more there was a general return to shorter models, even than had prevailed up to that time, but at length courage revived and the liners as a general rule began to be built each a little larger and faster than the last, until with the launching of the Oceanic the Great Eastern's unique place in history as the longest ship was lost.

For purposes of comparison we give the dimensions of the 11 biggest steamers ever built for the trans-Atlantic passenger traffic:

	Length, Feet.	Breadth, Feet.	Depth, Feet.	Gross Tons
Great Eastern.....	680	83½	58	22,500
Oceanic.....	704	68	44	17,040
Kaiser Wilhelm der Grosse.....	627	66	35.8	14,349
Campania and Lucania	601	65	37.8	12,950
St. Paul and St. Louis	535 5	63	26.8	11,629
Majestic and Teutonic.....	566	58	39	9,965
New York and Paris.....	527	63	22	10,674

The Kaiser Wilhelm der Grosse averaged on her maiden trip 21.39 knots, and on her voyage of July 5th, 1898, from New York to Southampton 22.56 knots.

THE MICHIPICOTEN IRON ORE BEDS.

Mr. Arthur White, of the Grand Trunk Railway, returned to Toronto recently from a visit to Michipicoten, Ont., where he had been for the purpose of inspecting the Hellen iron mine. He was conveyed to the mine by Mr. Clergue, and had as his fellow traveler Hon. Chas. E. Turner, Consul-General for the United States, who was taking the trip for the purpose of making a special report to the United States government covering the indurstries of Ontario, as now being promoted by Mr. Clergue. When the party reached Michipicoten Harbor they found a bustling railway termini, with large trestle works for the unloading of iron ore, extensive freight yards, locomotive and car sheds, stores, etc., and all the necessary appliances for conducting a heavy freight traffic.

Proceeding by special train to the Hellen mine, a distance of twelve miles, they viewed a mountain of almost pure brown hematite ore, which, after careful tests by diamond drills is estimated to contain over thirty million tons. The ore is being worked from the face of the mountain, the foot of which is almost on a level with the crusher now being placed in position for the purpose of crushing the ore. The ore is dropped down the face of the mountain with very small blasts, and gravitation does nearly the whole of the business after that through the crusher and down the railway to the trestle works at the harbor. The line is being equipped with 100-ton locomotives and 50-ton capacity steel cars for the ore. Shipments, when begun, will be at the rate of 2,500 tons per day. Shipments of ore will be made to Midland, Hamilton and Deseronto, possibly to Montreal, and largely to the United States.

After the company had got through with the testing of the Hellen mountain mine, water was required in connection with the ore crusher, and they commenced to run a lateral shaft into a mountain, but in place of getting water they were agreeably surprised to find a continuation of brown hematite ore, and up to date they have run two lateral shafts into this second mountain a distance of 250 feet each, finding nothing but a continuation of the best brown hematite, making it look as if a supply of iron ore had been deposited here for the world's use for years to come. The railway is a branch of the Algoma Central, and is intended to connect with the Canadian Pacific Railway at a point near Missanabie, and then eventually to run on to Hudson Bay.

In connection with the railway, Mr. Clergue has purchased four English steamers having a capacity of 2,500 tons each. These steamers at the present are being used for bringing 85-pound rails from Lorain, O., with which to rail the Algoma Central railway, the latter having under construction their main line from Sault Ste. Marie running north, and another branch from Norton, near Sudbury, tapping the nickel belt owned by Mr. Clergue's companies, which will make a connection in the first place with the Canadian Pacific railway, in order to bring the nickel ore to the ferro nickel works, now being erected at the "Soo," and also to the ferro nickel works, now being constructed at Hamilton, Ont.

A TEXT book of Mechanical Drawing and Elementary Machine Design, by John S. Reid, instructor in mechanical drawing and designing, Sibley College, Cornell University, and David Reid, instructor in mechanical drawing and designing in the same institution, has been published by John Wiley & Sons, New York. "Up to the present time no text book that we know of has been published in the United States that could in the best way fill the need as explained," say the authors in their preface alluding to the fact that the best practice in design and construction of machinery in the United States, using rules and formulæ whenever feasible in working out practical problems. "Books of a somewhat similar nature have been published in Great Britain, showing the same need has been felt as here. These books, modified to suit American practice, have been used to some extent in this country because they were the best to be had, but are not by any means all that can be desired for our purpose in their present form," say the authors. They secured samples of various machines from which drawings and sketches were made, while the best authorities on different subjects were used. Many firms supplied drawings and described their methods which will greatly aid students seeking practical advantages while securing an education. The subjects include every essential of mechanical drawing from a description of a complete drawing outfit to materials of construction, strength of materials and many useful tables. The work goes much more into useful detail, in plain, simple language and illustration than any book we have seen published on this subject. The book is an 8vo, 389 pages and contains 301 figures. Bound in cloth the price is $3.00.

AN account is given by Le Yacht of experiments conducted at Havre with the life-boat Admiral Cloue, designed to test a new system of calming a stormy sea by pouring oil upon it. The motive power is supplied by a bottle of carbonic acid in the center of the boat, which develops sufficient gas to project the oil by its pressure through a dozen different apertures outside the life-boat. The results are said to have been absolutely conclusive, the sea being calmed in a very remarkable manner.

IT is now turned two years since Lieutenant Peary, U. S. N., the Arctic explorer, has been heard of. He sailed for Greenland—this was his fifth voyage—on July 7, 1893, and the last message he sent to civilization was dated August 13, 1898, and read: "So far all my plans have been successfully carried out."

CHICAGO.

Special Correspondence to The Marine Record.

Grain freights settled on Monday at one and one-half cents on corn, with a half dozen charters made.

The lumber trade is taking care of more vessels and there is a better demand for tonnage in that trade than there has been any time this season.

On Tuesday the grain rates advanced to 1⅝ on corn and 1¾ cents on wheat. Considerable business was done in wheat that was not reported.

The steamer Andrew Carnegie loaded on Monday the biggest cargo of grain ever taken out of the Chicago river. Two hundred and thirty thousand bushels of corn was taken on at the Illinois Central elevators.

The Western liner Montana collided with the Canada-Atlantic liner George N. Orr, at Chicago Friday. The Orr's stockless anchor caught in one of the Montana's gangways and a severe break in the latter's quickwork resulted.

It is announced that extensive alterations will be made on the steamer City of Milwaukee during the coming winter. She will be laid up November 1, and it is intended to make her a duplicate of the City of Chicago, with the extra upper deck and additional show room.

The Michigan City line will close its business for the season next Sunday, when the America and A. B. Taylor will be sent to Grand Haven for the winter. General manager Dunbar says that the traffic for the season has been the most satisfactory since the line was established.

The movement of grain from Chicago is comparatively heavy, all of the boats that arrive easily finding cargoes, the supply of tonnage having been cut down by the delays at Port Huron owing to the wrecks, and by the recent storms which are keeping the boats under shelter.

Major Willis Moore, chief of the Weather Bureau, has selected a site on the old life-saving pier at the mouth of the Calumet river, for the erection of a storm signal tower. The Department of Agriculture has ordered that the work on the tower be begun at once. It will have a light powerful enough to be visible fifteen miles out on the lake.

Owing to dredging above the dam at Joliet there will be only two and one-half feet of water passing over the bear-trap dam at Lockport. This will cut down the current in the Chicago river to about two and one-half miles an hour. Sanitary district officials say the work which has caused stoppage in the flow will be rapidly pushed until completed.

A claim for salvage, the amount of which was not mentioned, was filed in the United States Court this week, at Milwaukee, against the steamer C. F. Bielman. The survey on the Bielman showed that the total cost of stranding on Fisherman's Shoal would be about $18,000, of which $8,000 is the cost of wrecking and the value of coal cargo jettisoned.

It is now stated that navigation on the Chicago river will be more satisfactory for the next few weeks. The current is to be materially checked, and the handling of big steamers will be greatly facilitated. There will be less danger of collisions with bridges and other boats, and the boats that have kept away from the river of late owing to the swiftness of the current need have no fear.

The steamer Wawatam, leaving Chicago with a cargo of grain for Buffalo, struck on La Salle street tunnel shortly after 1 p. m. Monday. She was in tow of the tug Dickinson. After a brief spell of hard pulling she was released by the tug. The water stood 17.9 feet when she went on the tunnel, and would have cleared the subway had it not been for two vessels incoming, who crowded her to the south side of the river.

In Joliet, Ill., the dam which holds backwater from the drainage canal, which has just been completed by a company for the operation of a large water-power electric plant, is causing much uneasiness to the engineers, who had contemplated putting it to use by this date. A sand pocket or hole, 10 feet deep and 20 feet across, has been discovered immediately below the center of the over-pour from the dam, and it is feared that a heavy concrete apron will have to be built on the lower side, the whole length of the dam.

It is stated that the four steamers ordered from the American Ship Building Co. for the Northwestern Transportation Co., headed by Charles Counselman, the grain shipper, are intended for the nucleus of a grain line between Chicago and Liverpool. Mr. Counselmen is in New York, and no one in his office would discuss the matter. On talking to a prominent vessel agent on the matter, he said, these boats may unload at Montreal and reach Quebec, but there is no trans-Atlantic trade for them either now or in the near future.

Grain shipments per lakes for the week ending Saturday last from the port of Chicago, which includes the Calumet, reached the unusually large total of 6,718,984 bushels. This was carried away by sixty-seven ships, or an average of nearly ten each day. Of this grand total about one-half was corn, the figures being 3,387,889 bushels. There were 1,444,749 bushels of wheat, 1,791,709 bushels of oats and 94,637 bushels of flaxseed. Some of the large freighters of the lake fleet came after grain cargoes owing to the dullness in iron ore shipments. They were not all loaded at South Chicago, the Curry and Aurania loading in the South branch of the Chicago river.

The Chicago Brass Co., Kenosha, Wis., since their new regime went into effect, have been branching out considerably in the way of manufacture of new products. The plant has been thoroughly overhauled since the advent of the new superintendent, Mr. Fletcher, and they are now contemplating the manufacture of brass pipe in connection with their reed output. J. D. Hackstaff, a mechanical engineer, connected with the Rockwell Engineering Co., of New York, has had the new work in charge and has completed his labors. It is said that the move will result in quite a large increase in the working force of the plant.

The steamer Richmond was tied up this week at Miller's shipyard by the sheriff, on a writ of attachment issued by the Superior Court in favor of Armour & Co. for $400. The boat is owned by Hulburt O. Wilson, of St. Joseph, Mich., and the claim is for supplies furnished the boat at that place. The Richmond has been running at St. Joseph for years as a fishing boat in winter and as a ferry boat between the twin cities in the summer. Capt. Wilson brought the boat to this city to sell her to Chicago parties, and the writ of attachment was immediately secured to head off a sale which might possibly be in a measure fraudulent to the supply dealers and others.

Capt. Mulholland of the Bradley line steel steamer Alva, has invented a new fastener for hatch covers, which was examined on Monday, by a number of underwriters and shipmasters. It was pronounced the best thing of its kind ever brought to the notice of the underwriters. Capt. J. J. Reardon was particularly enthusiastic, pronouncing the device one which would give much greater security to vessels in storms than any of the hatch fasteners now in use. Capt. Mulholland has tried the new fastener thoroughly on the Alva. New devices are coming out each season, and the latest appears to be the best. Mulholland may have something handy and secure, and then again, another notion may prove superior. There ought to be no difficulty in shipbuilders finding a proper hatch fastener.

Two boats left South Chicago with more than two complete railroad trains for cargoes. The boats are the car ferry barges No. 1 and No. 2. of the Lake Michigan Car Ferry Transportation Co., and are being towed by the big tug J. C. Ames. The barges will have on them two complete locomotives set up and ready for running forty cars of the flat variety and two passenger coaches. They are bound for the harbor at Michipicoten, which is on the north shore of Lake Superior about Sault St. Marie. They will be used on the Algoma Central Railway, which is now a line twelve miles long, but which some day, say the promoters, will link Lake Superior with the great Hudson Bay. The harbor at Michipicoten is now without any rail connection with the outside world, and so all supplies are shipped in by boat. The car ferry barges being designed for this work with tracks on their decks were chartered and loaded the outfit at the Calumet. The cars were built by the Pullman Co., and the locomotives at the Baldwin works at Philadelphia. On barge No. 1 are twenty freight cars and two passenger coaches, while the locomotives and twenty freight cars occupy the space on barge No. 2. The Algoma Central Railway is the line connecting Michipicoten iron mines with water commerce at Lake Superior. The mines were opened up this year and apparently they contain inexhaustible deposits of the ore. Docks have been constructed in the harbor, and several English tramp steamers have been brought to the lakes to haul the ore down to Desoronto and other Canadian furnaces on Lake Ontario. The enterprise is owned by Philadelphia capitalists, headed by Francis J. Clergue. They also have the water power concessions at the rapids in St. Mary's river at Sault Ste. Marie, where large pulp mills are being erected.

BUFFALO.

Special Correspondence to the Marine Record.

The receipts of lumber in the Tonawandas since Saturday night exceed the arrivals so far this season and break all previous records. Twenty lumber boats arrived, carrying 14,000,000 feet.

There are signs of a grain blockade. All the active elevators are, at this writing, congested, and the railways complain of shortage of cars. Vesselmen are commencing to grumble at delays.

The steamer Gen. O. M. Poe arrived at Buffalo Monday from Manitowoc with one of the mammoth cargoes of the season. It consisted of 64,000 bushels of corn, 225,700 bushels of oats and 50,500 bushels of wheat.

We are not entirely without some shipbuilding here this week. The unrigged canal barge of 387 tons No. 98 besides the Annie J. Guinean of 105 tons and the canal boat Fred C. Peckham, 103 tons, built at Plattsburg, N. Y., are to our credit.

Special types of boilers constructed by the Fitzgibbons Boiler Co., Oswego, N. Y., are described and illustrated in a handsome catalogue 9 by 12 in. in size. A number of excellent half-tone engravings show the several types, and a number of sizes of this well-known boiler, and a large sectional view in connection with the very complete descriptive matter, makes the catologue of much value.

A Canadian court was called upon to decide the value of a new suspension bridge between Queenstown and Lewistown Heights in Niagara, Ont., township recently. This grew out of a dispute regarding tax valuation, and the bridge company claimed that the only tax value the bridge had was that of old scrap iron should it be torn down. The scrap iron position was considered untenable, though the advancement of the proposition resulted in a material reduction of taxes.

Tuesday evening the big freighter Gen. Orlando M. Poe, while being brought into Buffalo harbor by the tugs Acme and Cheney, took a sheer and crashed into the steamer Pasadena, lying at the Bennett elevator dock. The Poe had been taken outside to wind and was being towed back stern first, which, taken in connection with the strong current, doubtless was responsible in a measure for the accident. Damage to the Pasadena was inflicted to her starboard quarter, and consists of a bad break, which is entirely above the water line. She was towed to the Anchor line docks and is discharging her cargo. Estimated expenses for repairs run from $1,500 to $2,000. The Pasadena is owned by M. A. Bradley.

Three members of the crew of the steamer North West were arrested here last Friday night on the charge of being implicated in the robberies which took place on the steamer North Land when she came down on her last trip and also of having been concerned in stealings on board of the North West. These three are the stewart, the chef and the head waiter. The waiter is said to have confessed that the three secured two large trunks full of silverware, fancy canned goods and other articles of value. Their alleged intention was to ship the goods to Cleveland where they intended to open a restaurant. When the North West left Buffalo on her last trip up the head waiter was left behind. As some stuff had been missed, the waiter was watched. His companions were supposed to be on the boat attending to business. It is said that the wife of one of them discovered that something was wrong and took the train for Mackinac, where she met the boat and warned her husband that the plan was suspected and that it was known that the three had moved the two trunks on the previous landing at Buffalo. The man, it is said, laughed at the fears of his wife, and is now in jail.

FLOTSAM, JETSAM AND LAGAN.

Lydon & Drews, the contractors on the straight channel at Toledo, have put two dredges to work cutting away the 1,600 foot bar at the outer can buoy, where vessels have been grounding recently.

The Belle Isle ferry boats are laid up for the season. The Promise and Fortune will keep steam up in case of an emergency, as their services are often in demand at the close of the season, when freighters get into trouble.

The U. S. Monitor Wyoming was successfully launched from the yards of the Union Iron Works, San Francisco, Cal., on Sept. 8. The launching was managed without a hitch, by Superintendent Dickie, of the Union Iron Works.

The steamers City of Racine and Atlanta, of the Goodrich Transportation Co., have been placed on the Chicago-Muskegon route, and the Iowa and Indiana, which have been on that route all summer, have been put on the west shore line.

The Lake Michigan Car Ferry Co. has sued E. G. Crosby & Co., of Milwaukee, to recover $4,500 damages for the sinking of the barge A in Racine harbor, May 15. The barge was leased by the plaintiff to the defendant, and the allegation is careless handling.

The amount of lake shipments from Buffalo last week was 35,880 tons, distributed as follows: Chicago, 18,500 tons; Milwaukee, 6,600 tons; Duluth-Superior, 3,500 tons; Racine, 1,880 tons; Lake Linden, 1,700 tons; Monitowoc, 1,200 tons; Gladstone, 700 tons; Toledo, 700 tons; Green Bay, 600 tons; Sault, 580 tons.

After a lapse of nearly a year another victim of the wrecked yacht Chiquita, which went ashore at the head of Lake Michigan on Nov. 2 last, a total wreck, has been found. The body was that of the wife of Capt. D. S. Way, and was found buried in the sand two miles west of the wreckage near Miller Station, Ind. It was well preserved.

Officials of the Pere Marquette Railway here say that Muskegon, Mich., is to be abandoned by that company as a freight receiving point about the time the new car ferry is delivered. The new company wishes to concentrate all its business on the east shore to Ludington, where the general offices of the road are, and its Milwaukee business will gradually be diverted to that port. At present the car ferry Pere Marquette runs from Manitowoc to Ludington, and the Muskegon from Milwaukee to Muskegon. When the new ship is delivered the Muskegon will run from Milwaukee to Ludington, and the new vessel will be put on the Manitowoc run to help relieve the Pere Marquette, which has been obliged to make two trips daily.

PATENTS ON MARINE INVENTIONS ISSUED.

657,943. Tide-motor, F. R. Kimball, Salem, Mass.

657,980. Pile-holder for pile-driving machines. J. G. Falcon, Evanston, Ill.

658,043. Hand-propelled boat D. M. Pfaust, Philadelphia, Pa., assignor of three-fourths to C. F. Maize, Josiah Dearnley, J. F. Reichardt, B. D. Rearick, J. E. Challenger, John Binkin, Jr. C. J. McDougall, A. B. Metzler, and J. W. Burr, same place, and C. E. Metzler, Landsdale, Pa.

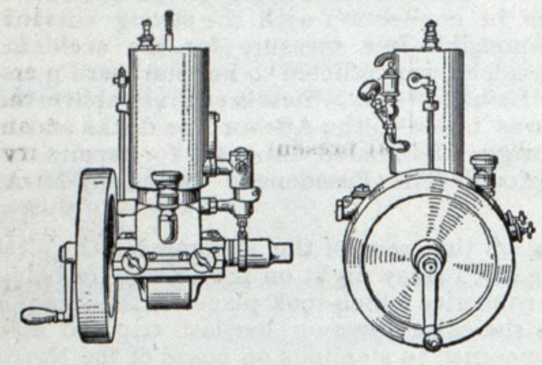
658,202. Vessel for carrying passengers. A. W. Bibby, Liverpool, England.

658,265. Pneumatic propelling and steering device. Constantin Janczarski, Hughesovka, Russia.

658,297. Water-wheel. J. W. Taylor, Atlanta, Ga., assignor to the Taylor Manufacturing Co., Lynchburg, Va.

Truscott

VAPOR MARINE MOTORS.
HIGH GRADE PLEASURE CRAFT.



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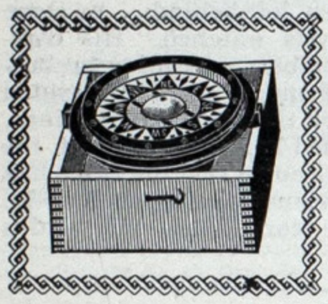

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ASTRONOMICAL DATA.

Astronomical data for October, 1900, furnished to the MARINE RECORD by the Washburn observatory:

The planets Mercury, Jupiter and Saturn are situated in the evening sky. The first reaches its greatest distance east from the sun on October 29, but is too low in the southwest to be readily seen. Jupiter remains the brilliant star of the southwestern sky, but its position becomes lower and its setting earlier each evening. Saturn is far south also, and is much less brilliant than Jupiter, but will be the more convenient planet to observe. In the latter part of the month Saturn also becomes very low in position, Mars rises at about midnight and will be seen in the early morning shining with a ruddy light at a high altitude east or northeast of the zenith. Venus is still the brilliant star of the morning, but the planet is drawing back towards the sun and is diminishing in apparent brilliancy.

The times of sunrise and sunset at Milwaukee for the month are as follows;

	SUNRISE.	SUNSET.
Oct. 1	5:48	5:34
Oct. 11	6:00	5:16
Oct. 21	6:12	5:00
Oct. 31	9:25	4:45

The times of the moon's phases are:

First quarter	Oct. 1,	3:11 p. m.
Full moon	Oct. 8,	7:18 a. m.
Third quarter	Oct. 15,	3:51 a. m.
New Moon	Oct. 23,	7:27 a. m.
First Quarter	Oct. 31,	2:18 a. m.

The principal fixed stars visible during the month are: In the evening hours, to the west, Vega and Altair; to the east, Aldebaran, the Pleiades, and Capella.

COMPRESSIVE STRENGTH OF ANTHRACITE.

The following appears in Mines and Minerals for August, 1900: "A committee of the Scranton Engineers' Club is preparing for a series of tests to determine the compressive strength of anthracite coal. At a recent meeting of the Scranton Engineers' Club, William Griffith, of Scranton, reported the result of a few tests which he had made. These preliminary experiments indicate that different seams in the same colliery have different compressive strengths, and if this be the case, the present practice of laying out the pillars without respect to the compressive strength of the coal might be changed with great advantage to the operator in saving disastrous and expensive results. Such information would also afford a means of determining where larger pillars are necessary, where smaller ones could be used with safety, and whether any part of a mine is likely to cave or squeeze, etc. Circulars have been mailed to the superintendent of every mine in the Lackawanna and Wyoming valleys as given in the last report of the Bureau of Mines, asking them to send sets of specimens of coal to William Griffith, Coal Exchange, Scranton, Pa.; one set to Professor R. C. Carpenter, professor of experimental engineering, Cornell University, Ithaca, N. Y.; one set to Professor Louis E. Reber, Pennsylvania State College, State College, Pa.

REPORTED BY THE LOOKOUT.

THE Italian Minister of Marine has given orders for the construction of three new battleships of about 12,500 tons.

A TELEGRAM received in Paris from Tunis reports that the operations were begun on Monday for the enlargement of the Biserta canal.

THE vessel Bullmouth is discharging a cargo of 4,850 tons of iron ore at Messrs. Bolckow, Vaughan & Co.'s wharf, Middlebrough. The cargo is from India.

A DALZIEL'S Paris cablegram states that the French Government has decided to send a message of condolence to United States Government on the occasion of the disastrous hurricane in Texas.

THERE are four large elements of lake transportation—ore, coal, grain and lumber, but the greatest of these is iron ore. Its volume exceeds that of the other three. It constitutes about half the traffic of the lakes.

MESSRS. ELDER, DEMPSTER & CO., who have done much to develop the West India and Southern trade by the opening up of steam communication with these sections, now offer a prize of £50 for the most practical suggestions for the development of trade between the islands of the West Indies and England. There will be no restrictions as regards the length of the essays, but they must be sent in by Nov. 1, 1900. The essayists must write on a stricly commercial line, and no literary elaborations or padding are wanted.

UNITED STATES CONSUL HILL, at Amsterdam, reports that the new Elbe and Trave canal, which has been building five years, and has been completed at a cost of 24,500,000 marks ($5,831,000) was formally opened by the German Emperor on June 16. The length of the new canal—which is the second to join the North sea and the Baltic, following the Kaiser Wilhelm ship canal, or Kiel canal, which was finished five years ago at a cost of 156,000,000 marks ($37,128,000)—is about forty-one miles. The available breadth of the new canal is 72 feet; breadth of the lock gates, 46 feet; length of locks, 87 yards; depth of the locks, 8 feet 2 inches. It is crossed by 29 bridges.

SOME rot contributed by Waldon Fawcett to the Scientific American in a page article reads as follows: "It must not be supposed that the sailing vessel of steel construction, or rather metal construction, is an absolute innovation. Early in 1883 there was launched at the shipyard of John Roach, at Chester, Pa., the Tillie E. Starbuck, a full rigged iron ship, the first metal sailing ship built in the United States and one of the first turned out anywhere in the world. The Starbuck was also the first sailing vessel in the world to carry metal masts. She was 273 feet in length, 42 feet beam and 26 feet depth of hold. She was somewhat over 2,000 tons burden and cost $150,000. The seaworthiness of the iron sailing ship was early proved by the behavior of the Starbuck in a terrific gale around the Falkland Islands, when her iron masts neither broke nor stranded, and the general efficiency of this class of craft is attested by the fact that the vessel in question is to-day trading around the world." Iron vessels were built before he was born or thought of and how iron masts could be stranded is beyond our comprehension.

M. WILLETT, chief inspector of French telegraphs, in a paper to the electricians' congress at Paris, indicates a belief that in the wireless telegraphy as now practiced the projection of the matter telegraphed leaves the masts at the bottom instead of the top, this being probable from the fact that neither the roundness of the earth's surface nor intervening hills intercepts the signals transmitted. His theory involves communicating through the geological beds in which the earth's electricity has the same tension, the idea being that any disturbance at one point on the same electric level creates what would be called a swell in the whole level, leaving the higher and lower strata comparatively undisturbed. The French telegraph department has appointed a committee to sink shafts to ascertain the distribution of these electric levels.

THE following is the degree of completion per cent. September 1, 1900, of vessels under construction for the United States Navy: Battleships—Illinois, 85; Alabama, 99; Wisconsin, 96; Maine, 34; Missouri, 12; Ohio, 28. Sheathed protected cruisers—Denver, 24; Des Moines, 6; Chattanooga, 8; Galveston, 1; Tacoma, 1; Cleveland, 15. Monitors—Arkansas, 41; Florida, 46; Wyoming, 51. Topedo boat destroyers—Bainbridge, 73; Barry, 72; Chauncey, 72; Dale, 82; Decatur, 79; Hopkins, 67; Hull, 67; Lawrence, 97; Macdonough, 95; Paul Jones, 75; Perry, 75; Preble, 75; Stewart, 34; Truxton, 31; Whipple, 31; Worden, 31. Torpedo boats—Stringham, 98; Goldsborough, 99; Bailey, 96; Bagley, 83; Barney, 96; Biddle, 65; Blakely, 92; De Long, 92; Nicholson, 75; O'Brien, 77; Shubrick, 90; Stockton, 96; Thornton, 9[illegible]; Tingey, 61; Wilkes, 53. Submarine torpedo boat Plunger, 85.

MESSRS. KIDDER, PEABODY & CO., confirm the report from Baltimore that they have ordered of the Maryland Steel Co. two freight steamships of between 11,000 and 12,000 tons cargo capacity each. These are the largest tramp steamships ever built in this country; in fact, there are very few tramp steamers in existence any larger. They will not be operated on a line between Boston and England, but will be for service all over the world and go wherever there is the best-paying cargo. The form of securities which will be issued has not been definitely settled upon, but either a stock company will be formed or trustees will own the vessels. In either event securities will be issued within a few months. Meanwhile all financial arrangements will be made by an underwriting syndicate, as other people will be associated with Kidder, Peabody & Co. Over $1,500,000 is involved in the enterprise. If a shipping bill should become a law, these boats will only be the nucleus for a large fleet.

TREASURY DECISIONS.

PASSENGERS ON SAILING VESSELS.

Sailing vessels are not liable to penalty for transporting more passengers from port to port in the United States than allowed by the certificate of inspection.

TREASURY DEPARTMENT, September 12, 1900.

SIR: The department is in receipt of your letter dated the 31st ultimo, transmitting a copy of a certificate of inspection in the case of the bark Northern Light, which arrived at Seattle, August 20, 1900, from Cape Nome, with an excess of 48 passengers over the number allowed by certificate. You state that under your instructions a fine of $2,400 was imposed.

The United States attorney reported on the case as follows, under date of the 29th ultimo:

Regarding the alleged violation by the bark Northern Light of Section 4465 Revised Statutes, by carrying a greater number of passengers than stated in her certificate of inspection, the same having been reported to this office by you, I have looked into the matter thoroughly and I do not find that the vessel is liable to fine, forfeiture, seizure, or other penalties on account of having carried a greater number of passengers than stated in her certificate of inspection. Before she was liable, it is my opinion that there would have to be some express statute or requirement by the department fixing a definite and specific penalty for such a violation. I do not find any such statute. Section 4465 is expressly confined to steam passenger vessels. Further, I do not find any requirement or authority for the inspector of hulls and boilers to state in a certificate given a sailing vessel the number of passengers she can carry and accommodate. The fact that they may do so does not, in the absence of such a requirement, fasten upon such sailing vessel or its officers any duty, a violation of which will subject them or the ship to penalties or forfeiture, the same being a vessel sailing between American ports.

The department is of opinion that no penalty was incurred, and you are authorized to refrain from further proceedings in the matter, the fine not having been paid.

Respectfully,

O. L. SPAULDING, Acting Secretary.

COLLECTOR OF CUSTOMS, Port Townsend, Wash.

DIRECTIONS FOR INSPECTION OF IRON AND STEEL PLATE.

TREASURY DEP'T, STEAMBOAT INSPECTION SERVICE,
OFFICE OF SUPERVISING INSPECTOR GENERAL,
WASHINGTON, D. C., September 12, 1900.

To Manufacturers of Boilers and Boiler Plate:

Notice is hereby given that the inspection of iron and steel plate under the act of Congress approved January 22, 1894, must be confined exclusively to the inspection of iron and steel to be used in the construction of new boilers of steam vessels.

Manufacturers of boiler plate will hereafter be required to include in their application for inspection of plate at the mills the following information: Name of steamer, if she has one, upon which the boiler is to be used, for which the plate is ordered. If the steamer is not yet named, then the name of builder of hull. For whom built. Waters upon which the steamer is to be navigated. United States local inspection district in which she will be inspected. Number and thickness of plates for shell, steam chimneys, linings of same, shell of steam and mud drums. Thickness of head and side sheets, domes, crowns of furnaces, and back connections.

To insure prompt inspection of their material, manufacturers of boilers for steam vessels should supply the above information when forwarding their orders on a form substantially as follows:

ORDER FOR STEEL FOR MARINE BOILERS.

Only such plates as require government inspection to be shown on this sheet.

Plates for repairs or stock boilers will not be inspected at the mills. Material for such repairs will be inspected by the inspector in districts where the material is to be used.

All the information called for in table below is positively necessary to the assistant inspector so that he may determine intelligently the exact plates subject to tensile strain in the completed boiler.

——— ———, 19—

For ——— ———, of ——— ———.

No. of plates.	Material	Diameter heads.	Length	Width	Thickness.	Location of plate.	Remarks

Name of boiler manufacturer ——— ———, at ——— ———. Kind of boiler ——— ———. Shop No. ———. Diameter of boiler ———, length of boiler ———. Steam pressure required ———. Are heads to be bumped or flat ———. Name of builder of boat ——— ———. Name or number of steamer for which boiler is built ——— ———. For whom built ——— ———, of ——— ———. Waters upon which the steamer is to he navigated ——— ———. Tensile strength ———. Local inspection district in which completed boiler will be inspected ——— ———.

The attention of the manufacturers of boilers and boiler plates is particularly directed to the requirements in above form, as assistant inspectors at the mills will be justified in refusing to make tests of orders failing to give the information called for.

JAMES A. DUMONT, Supervising Inspector General.

Approved:

O. L. SPAULDING, Acting Secretary of the Treasury.

EASTERN FREIGHTS.

Messrs. Funch, Edye & Co., New York, report the condition of the Eastern freight market as follows:

Chartering of steam tonnage applicable to different trades has ostensibly diminished, as a comparision of the list of fixtures with those of the preceding week will show. Whilst Galveston is making herculean efforts toward resumption of shipments within the next fortnight, we fear that some further time will elapse before business thence is in full swing again. In the interim, shipments from New Orleans have been active, and both rates thence advanced to figures yielding to charterers a profit on their fixtures, which they have not succeeded in securing since a long time. Freights from the Atlantic cotton ports have latterly been kept active by the demand for boats still to serve for September loading, in consequence of which a few steamers in required position, have been enabled to secure very high, (and as to condition of freights generally misleading) charters. This pressing demand has now been filled, and we find the Atlantic ports disinclined for further tonnage, unless at a substantial reduction from last quotations. The demand for grain steamers continues active and vessels could be placed from range of ports at 4s 6d to Cork f. o. for later months of the year; large boats for October loading can secure 4s to picked ports, if offered for the business. There has been an increase of time charters at full rates, charterers holding out, however, for a reduction in the length of hire. The charter of a boat taken by a timber shipper in the Gulf for a term of 3 years, forms a notable exception, especially since charterers there are generally unwilling to respond to owner's increased demands. Some fixtures for coal have still taken place, but the fact of resumption of shipment of Welsh coal, is already noticeable in respect to new business forming. We may here remark that mining of bituminous, the export coal, is not interfered with by the strike of the anthracite miners.

We have no important change to report in the condition of our sail tonnage. Charterers are naturally reluctant in responding to the continually increasing demands of owners and the number of fixtures has declined in consequence. The most pressing demands for case oil tonnage to Japan have been filled, and there is at present a lull in the enquiry in that direction, although rates are unchanged. We can report a good demand for coal vessels in a number of directions, but, owing to the scarcity of suitable tonnage, only few charters could be effected. The enquiry for general cargo vessels to the Colonies continues, and rates in that direction are very firm, forming the basis for excellent charters.

THE LARGEST CANTILEVER BRIDGE IN THE WORLD.

Work on the largest cantilever bridge in the world has been started by the Phœnix Bridge Building Co., of Philadelphia. The contract was awarded by the Canadian government after a long study of the plans of the various bridge building companies, and by its preference for the Phœnix Co., Philadelphia is placed in the lead in bridge building. The bridge, for which the structural material is now being made at Phœnixville, will span the St. Lawrence river at Quebec. According to the terms of the contract, it must be completed within two years. The approximate cost will be $4,500,000. Including the approaches the bridge will be 3,000 feet long. The main span which will cover the deepest part of the St. Lawrence river, will be 1,800 feet long. About 10,000 tons of steel will be used in erecting the main span. When the size of the structure was definitely decided upon it was found necessary to build it 180 feet above tide water in order that the heavy flow of ice in winter could pass without becoming jammed. The bridge will be seventy feet wide, and through its centre four railway tracks will be laid. On either side will be two footwalks with a driveway between. Just underneath the centre of the bridge the St. Lawrence river is about 200 feet deep, so the caissons for the piers will have to be set many feet below tide water.

A CARGO of pig iron has been removed from the schooner Richards, which was sunk by collision in the Canadian channel opposite Detroit, to warehouses in Walkerville, by order of the Canadian government. This iron will be held by the Canadian government, it is said, until the underwriters remove the wreck from the channel. The underwriters cannot realize on the iron until the channel is clear. In trying to get the wreck into shoal water, the line parted after the wrecking tug Champion and tug Lorman had pulled the Richards over on her port side. Another effort to get the boat into shallow water will be made and there is no doubt but that she will be dry docked before the end of the week.

THE Department of Engineering on river and harbor work in the Cleveland district, is now engaged in making the maps of the extension of the east breakwater to Willson avenue. This shows that the preliminary survey of the district has been entirely completed and the estimate of the cost made. These matters will all be compiled and sent to the War Department. The figures will not be given out until the report has been reached by the War Department.

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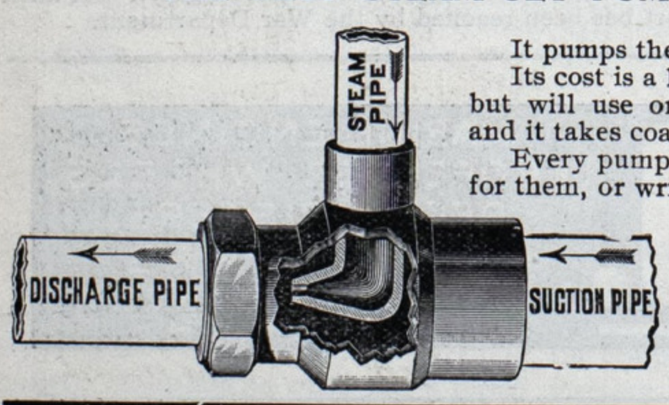

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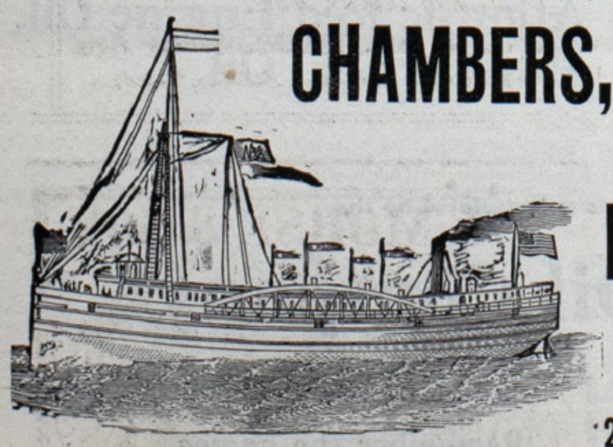

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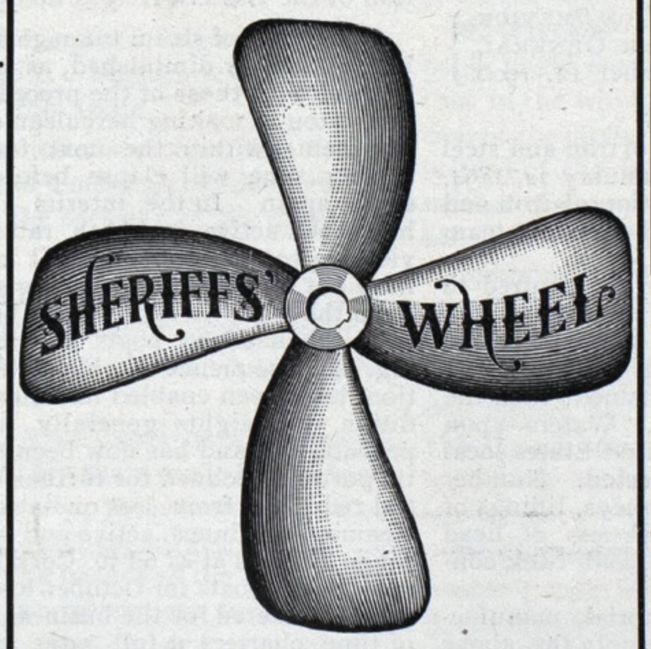

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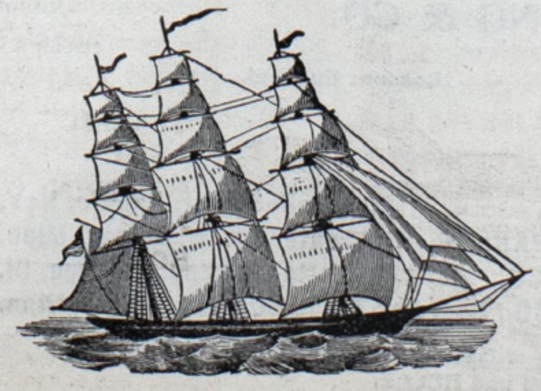

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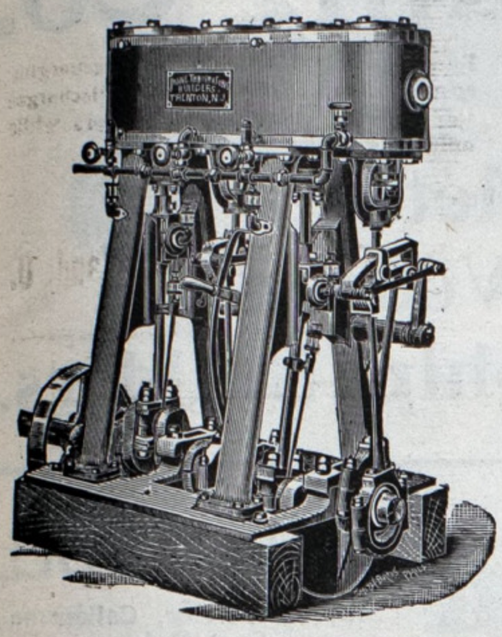

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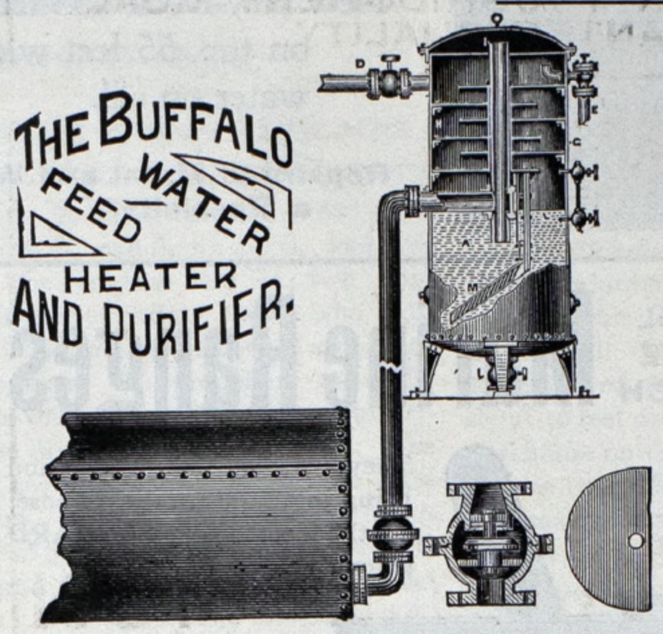

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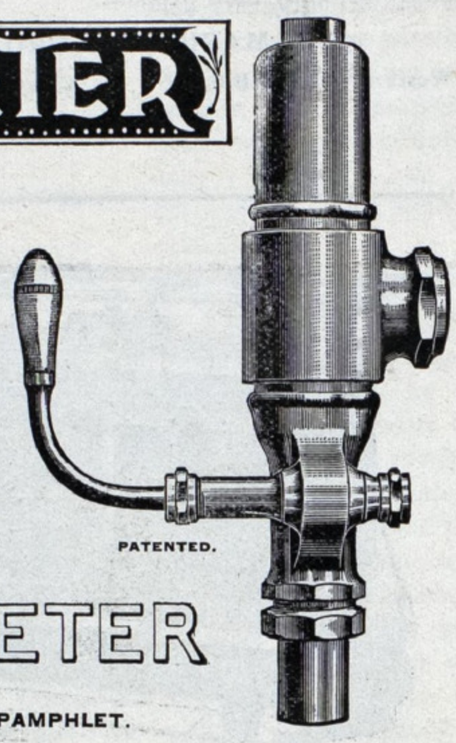

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U. S. ENGINEER OFFICE, 185 Euclid Ave., Cleveland, O., September 8, 1900. Sealed proposals for constructing breakwater and piers at Black River Harbor, (Lorain), Ohio, will be received here until 2 p. m., standard time, Monday, October 8, 1900, and then publicly opened. Information on application. JARED A. SMITH., Col. Engrs. 37-38

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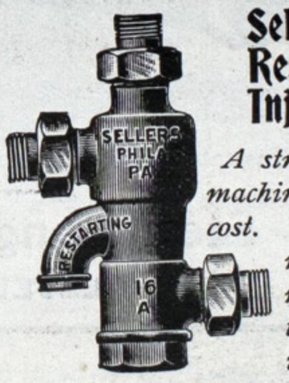

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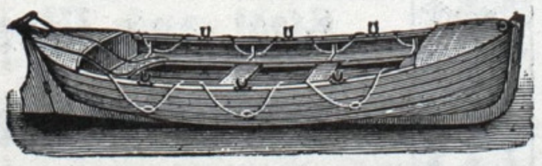

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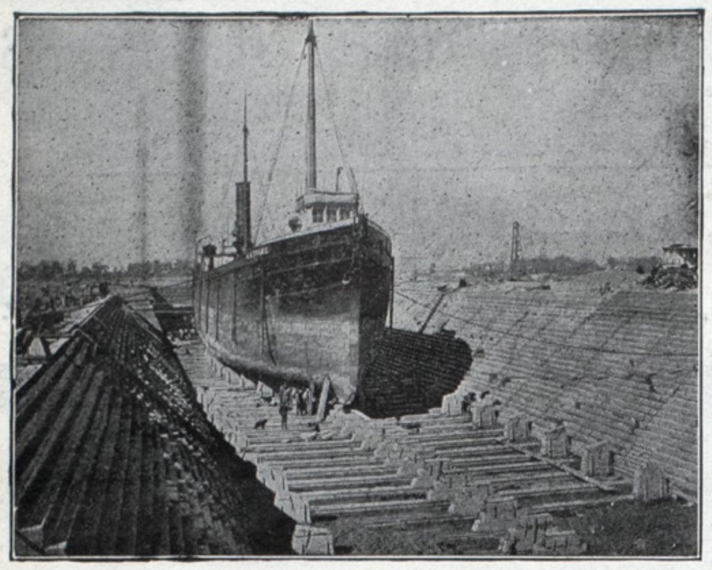

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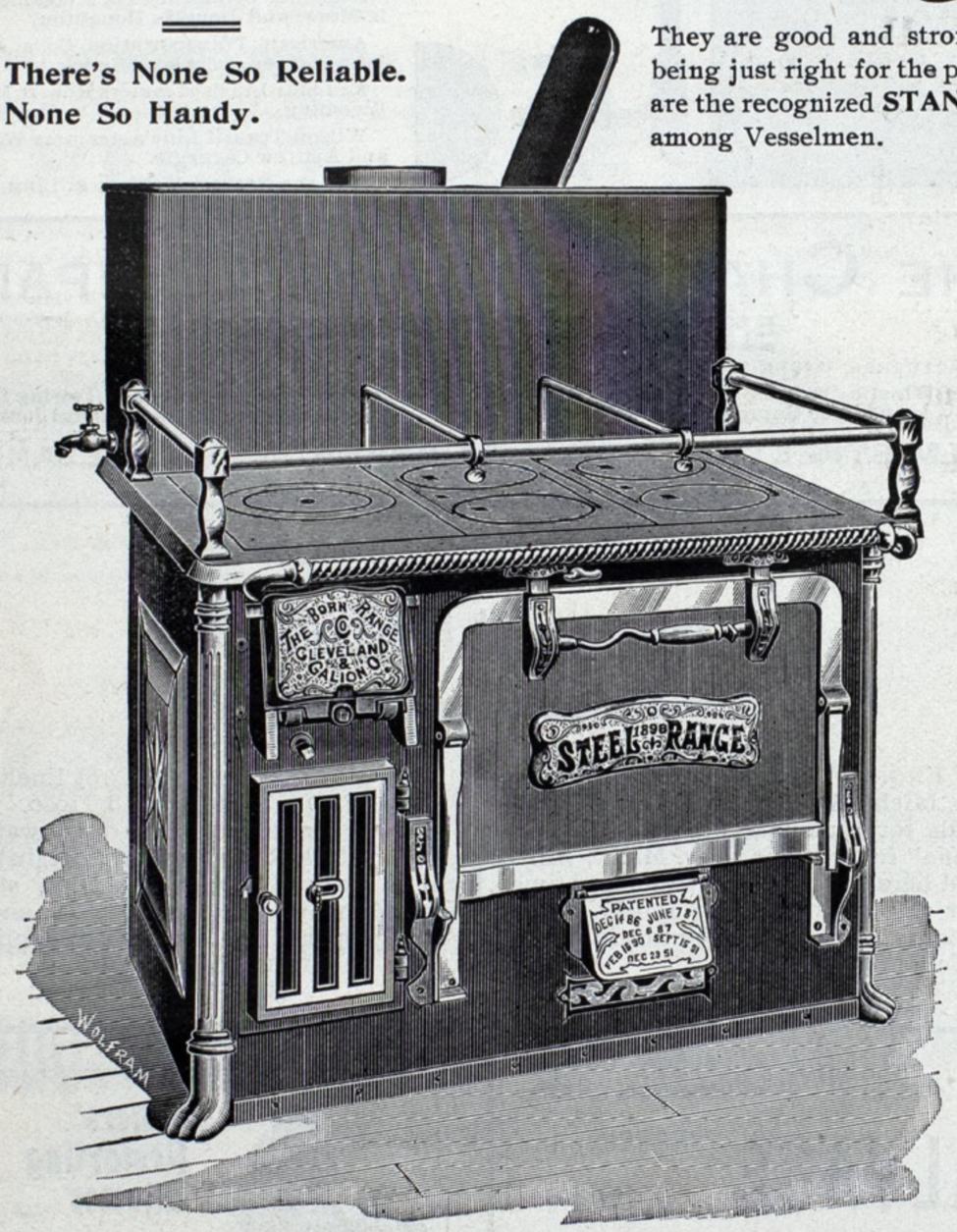

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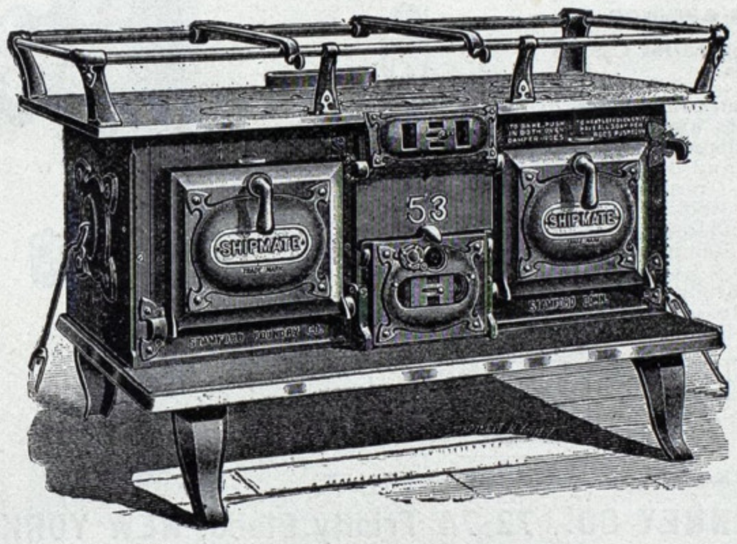

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